XXXVII. *Observations on the Use of the Mysterious Figure, called Vesica Piscis, in the Architecture of the Middle Ages, and in Gothic Architecture; by* T. KERRICH, *M.A. F.S.A. Principal Librarian to the University of Cambridge.*

Read 20th January, 1820.

IN my observations on Gothic Architecture, published in the Sixteenth Volume of the Archaeologia, I ventured to express my belief that the rules and principles of it might be recovered by a patient examination of the numerous buildings in that style still remaining. And I also remarked, that the Mysterious Figure, which seems to have been called Vesica Piscis, had a great influence upon the forms of all sorts of things, which were intended for sacred uses; after the establishment of Christianity.

I would now propose to point out some instances, where this influence seems to be apparent, in works of Architecture: and first in the plans of Churches and Chapels, and other religious buildings; and the use the old Architects made of it to determine the proportion of the two dimensions of their length and breadth to each other.

The Figures 1—27, (Plates XX. to XXVI.) are a series of such plans of different ages, from the Churches of St. John Lateran and old St. Peter's at Rome, (both believed to be of the time of Constantine,) to the Abbey Church of Bath, one of the latest Gothic buildings of importance that we have in England; with this figure applied to them, to show how closely they agree with it.

In the first eleven figures it is used in its simplest form, where the center of each of the two circles which compose it is taken in the circumference of the other, and by its length and breadth those of the whole design are determined. But it has been sufficiently shewn already, that this figure, as well as the Gothic arch of two centers, is capable of being varied infinitely, and according to many different laws; and we will only repeat here that the Architects must necessarily have assigned some limits, and must also have reduced its variations to definite and distinct forms; and they were at perfect liberty, for any thing that we know, to set what limits, and fix upon what forms they pleased. And we would wish to ascertain what those limits, and what the forms of it were upon which they fixed.

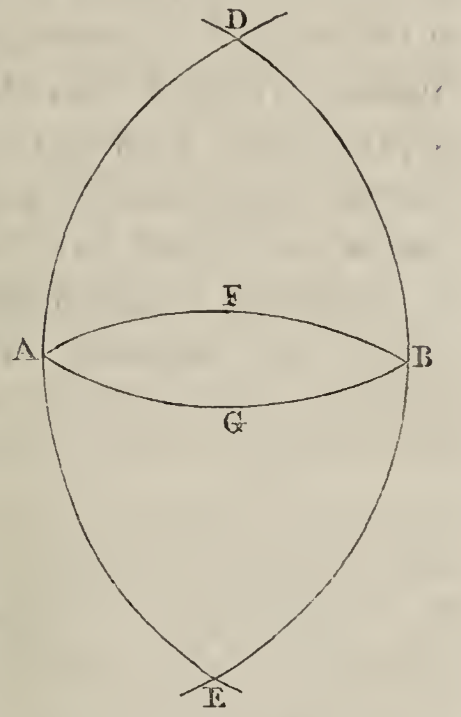
From what I have observed these forms were by no means numerous. Below that before mentioned, which may properly be considered as a sort of middle or mean form, including the circle, which must be its limit one way, I believe there are only six that were of established or common use; and they may be all easily drawn with great exactness by taking any given line M N (Pl. XXVI. Fig. 28,) for the breadth, cutting it into twelve equal parts in the points A B C D E F G H I K and L, and taking two of those points which correspond, or are at equal distances from the respective ends of the line, for the two centers of each Vesica, till we arrive at the middle point F, where we may conceive the two centers to have met and to unite in one, which must of course produce a circle.

Now all the seven rectangles, Pl. XXVII. Fig. 29, agreeing with these figures, admitting the square to be one of them, if I mistake not very much, I have found actually used for the plans of Choirs, Chancels, Chapels, Porches, &c. in Norman and Gothic buildings, one only excepted; and I have met with no plans of such buildings that did not agree with one or other of them.

Above the mean, or in plans longer in proportion to their breadth, what rule the Architects had prescribed to themselves for adjusting these proportions we have not yet been able to discover; but it was probably by some method similar to that by which they were guided in the former case. See the Plans, Pl. XXVII. Fig^{s}. 29 and 30.

The Numbers 8, 9, 10, 11, 12 and 13, in Pl. XXVII. are a series of such plans taken from buildings that still exist; and they look very like fragments of a system with the whole of which we are not acquainted.

However, from what we now know of it, there is good reason to conclude that the utmost length was limited in the early times of Christianity, and in the Architecture we call Saxon and Norman, by the Vesica A F B G in the following Figure, which seems to have been another form of it, which was held in particular estimation. By it, the length of the whole body of the building in proportion to its width was then very generally, if not always determined; and although the Gothic Architects of the 13th, 14th, and 15th centuries indulged themselves in greater liberty, and sometimes passed this limit, and designed buildings of greater length in their proportions, as in the plans (Pl. XXV. Fig. 22. and Pl. XXII. Fig. 10) of Salisbury Cathedral, Great Wilbraham, and no doubt in many others, yet this never was given up, but continued to be a standard proportion, to which they appear to have paid particular respect throughout all those ages, and even to the latest times; as we may gather from the Plans of Barnwell Chapel, Frenze Church in Norfolk, and Little St. Mary's Church, and King's College Chapel at Cambridge, which are all formed upon it, and are all Gothic and of different dates. Perhaps ideas of particular holiness might be attached to it; and we may remark it is in this very case that the Figure is called Vesica Piscis by Albert Durer; so that whatever doubts there may be with regard to the other forms of it, there can be none as to its being so named in this.



We will now proceed to point out the use that appears to have been made of this figure, in other parts of architecture.

The Norman Doors and Arches, Pl. XXVIII. XXIX. XXX. Fig. 32—46. are faithfully copied from the prints referred to; and this figure is applied as it was before, to the plans. The ground about old churches is commonly so much raised, that the lower part of the door is buried, and we can seldom see the whole of the design; however, we may venture to propose Figs. 47, 48, and 49, in Pl. XXX. XXXI. as what there is reason to believe, from the great number we have measured and compared, were very usual methods of constructing them. Designs formed in this way, I am persuaded, would not differ materially from what a Norman architect would have made. I have chosen rather to make use of prints and drawings by professional men than my own, for two reasons—first, they are probably better and more accurately measured than what I should have been able to make, and secondly, they cannot be suspected of any deviation from truth to favour my own notions. I have not examined enough of the Windows in buildings of this style to speak with any confidence as to the manner in which they were designed: the most ancient are small and very narrow for their height, but it may be questioned whether they are more so than what has been here called the extreme proportion of the Vesica Piscis. (See Pl. XXXI. Fig. 50, No. 1 and 2.)

The use of this figure in designing Gothic Arches, Doors, and Windows, whose upper part is pointed, appears more obvious; and no doubt it is so with respect to the mere Arch itself, but that is not the use of it here meant. There are here two different applications of the figure which are perfectly distinct; and we must take care to consider them so, for we shall be led into great mistakes if we confuse them together. A Gothic Arch of two centers is always part of some Vesica Piscis; one half of it exactly, if it be complete: but that by which the proportion of the height to the width of the Door, or Window, or Arch to which it belongs is adjusted, may be a very different thing, (see Pl. XXXI. Fig. 51) and usually is so; although there are instances where the same Vesica serves for both purposes. See the Window, Pl. XXXI. Fig. 52.

There is another class of things generally admired and highly ornamental, in whose design this mysterious figure does really appear to have had a great influence where perhaps it would not easily have been suspected: I mean Pinnacles and Spires. (Pl. XXXI. Fig. 53, Pl. XXXII. Fig. 54 and 55.) The Fig. 56, in Pl. XXXII. No. 1, 2, 3, are meant to shew the mode in which, it is conceived, the design for the Spire of Salisbury Cathedral was made. It would be easy to determine whether it really was so or not, by only measuring the outward angle BAS, or the outward angle HGM, for it is evident they must differ, the one being the angle which the side of a cone circumscribed to the pyramid makes with the plane of the horizon, the other that which one inscribed within it makes with the same plane. Whether there be any of a higher proportion than this, (such as Pl. XXXII. Fig. 55) may be a subject of future inquiry: it is very probable that there are, though I do not recollect to have seen any that appeared to be so; but without actual measurement one can never speak with certainty. Spires of lower proportion are common, (Pl. XXXI. Fig. 53,) and those differing very much from each other; and it seems reasonable to suppose their various forms were regulated by some settled and known rules, as those of plans were.

Spires I believe are all pyramids, and usually octagonal: it is generally said they are not very ancient, and they are understood to belong to the light architecture we call Gothic, exclusively: And perhaps, properly speaking, it may be true: but that will depend entirely upon a definition: we certainly find things very similar in Norman architecture, and a sort of rudiment of them in buildings which are extremely ancient; for although some of them are very low, and upon square or quadrilateral bases, they still are pyramids, and must be considered as things of the same nature.

Whether the same mode was adopted to settle the altitude of Towers and Steeples, in proportion to either the side or the diagonal of their base, I do not know; but it seems exceedingly probable that it was. And should the instances here produced be thought sufficient to prove that the architects used it in the former cases, one would expect to find, upon examination, that the use of it was very general in making their designs of all kinds: Elevations and Sections, as well as plans, and the Façades of Churches, Chapels, Porches, and other religious buildings. It certainly might be of universal application wherever the proportion of height or length to breadth was to be determined; and perhaps it would not be easy to find a readier way of doing it.

To pursue the matter further would increase this Dissertation to an unreasonable length. At present I will content myself with giving a single example of the mode in which designs for the front of a Norman Church were, as there is reason to believe, very generally constructed. (Pl. XXXIII. Fig. 57.)

Lastly, in designing the arches which separate the aisles from the nave of churches, we discover the same figure used with regard to the leading, or as they were probably called, master-lines, which determined their forms, but in a way something different (see Pl. XXXIII. Fig^s. 58, 59, and 60); and in these designs there was often, not only a double application of the Vesica, as before in those of Gothic doors and windows, but frequently the intersecting circles which form it, answered a further purpose in adjusting the height of the pillars which support the arches; and sometimes for determining also the place of the string-course above them, upon which the next tier of pillars and arches was to be placed. And here it may not be improper to explain the great importance of our being right as to these master-lines, and the errors which must, and do constantly arise from mistakes concerning them. For example, in any one of the cases before us, if a man should have supposed the line a b c in the arch A B C, Pl. XXXIII. Fig. 58, 59, to be the master-line, he would have found it anomalous, as all but the one line A B C, &c. must be; or else belonging to a different rule from that by which the design he is examining is governed; and as to this design it would in fact really be anomalous, however regular it might be in itself; and he must have taken a matter to be extremely intricate, which in reality was not so: it would have been to him unintelligible: he would have made wrong conclusions, and perhaps have entertained a false notion, that the Gothic Architects worked at random, without any fixed rules at all. We may observe that the master-line which regulates the form of these arches usually passes through the middle of the impost, or top of the pillar, on each side, upon which they rest; and is scarcely ever visible, or marked upon the wall by any moulding, projection, or excavation.

In Gothic windows the line running along the middle of the outward frame is that which regulates the arch, and all its mouldings however numerous, whether on the outside or within it: although another (as was observed before), not visibly presented to the eye of the spectator, may be the great ruling line which governed the whole design, and determined its proportions; and is a master-line in a rather different sense.

In Gothic doors it seems to be the arch of the door itself, the opening, the void, which is the master-line; and all those above it, of whatever mouldings they may be composed, will, of course, be anomalous, unless they should be so many or so broad as to reach another of the arches drawn according to the rule first laid down; which might be fairly called regular also, although in this design it would not be the leading line. And possibly in some cases these two lines would be, what is called commutable, and it might be a matter of indifference which of them was considered as the master-line. But still if the instances are few where this second regular arch is attained, it would be reasonable always to take that of the door itself for the principal or master-line of the design.

But however we may be convinced that the old Architects had rules to which they adhered very strictly, we are not to suppose they were so rigid in their observance as never to deviate from them in the smallest degree, whatever reasons there might be to do so, on account of convenience, situation, or particular notions of imagined beauty, elegance, or propriety. No art ever was or could be subjected to such rigour, nor could artists so shackled have gone on at all. Every one of them must have had his own particular bent, or genius, as it is called: and it is from studying a great number of their works that we can alone hope to distinguish what should be referred to that, and what is the result of general, established, and acknowledged laws, which are really what constitute the art. We must not expect to find every building we meet with either designed or executed with exact regularity: from love of novelty, vanity, and affectation of originality, as well as from want of abilities, strange irregular and enormous things have been produced in all the arts, in every age and country.

The multitude of Gothic buildings still remaining is prodigious. In many parts of England a man can scarcely travel twenty miles without finding something of this kind perfectly new to him, and different from what he had any idea of before. To examine them all would be impossible; but if a selection were made of such as are most deserving of attention, their curiosity and antiquity being taken into the account, it would tend very much to further our inquiry. This would be a matter of considerable labour, and would besides require some sagacity and judgment, as well as acquaintance with the subject: many of the buildings from which most information might be derived, are small and of little outward appearance, and for the most part have been hitherto overlooked.

But notwithstanding the great number of examples we have to study, I am still fully aware what an arduous undertaking it is, to deduce from things existing the rules by which they were formed; and how much more so it must ever be to discover the principles on which those rules were made. Numberless difficulties also will stand in our way, which are peculiar to the present case. We must reason back from things perhaps originally ill designed, or very inaccurately set out at first, and grossly executed, by men who hardly understood the rules by which they worked, and the principles of which were either kept from them by design, or were far above their comprehension: add to which, most of the buildings are now in ruins, or much out of repair; and what is worse, have in general been altered and deformed in times long posterior to their original foundation. So that the utmost we can hope for is to find out, by their approaches to them in numerous instances, what the proportions and designs were at which the workmen aimed.

Very few of the prints or drawings we can procure are executed with sufficient accuracy: the measures have not, in general, been taken with so much care as they ought to have been, or so exactly reduced to a scale; and they are often too small for our purpose. No doubt, therefore, I must have made mistakes in particular instances, and been erroneous as to the precise form of the Vesica which was used, and the stations of the centers from which it was actually described; but if I am right in supposing the design in question to have been formed upon that Vesica, or one of some definite figure, not very different from it, I shall have attained all that I expected, or would be understood to mean. We should remember there is also great room for error arising from the position of the walls of buildings. They are sometimes of vast thickness when compared with the extent of the plan to which they belong, and it may be a matter of importance whether they be placed within the rectangle, on the outside, or upon the very lines of it. All these difficulties taken into the account one cannot hope to arrive immediately at certainty, or exactness. How far what has been here offered may lead to knowledge, must be left for future investigation to decide. The agreement of this figure, which we have called Vesica Piscis, with the several parts of architecture here pointed out, appears to be such as cannot well be ascribed to accident; and if further examination should confirm what I have only suggested, we shall have gained an important step towards recovering the rules and science of the ancient architects, whose works are at present so much studied and admired; and it may be regarded as a sort of discovery. If on the other hand it should be all founded in mistake, which may possibly be the case, for I cannot be absolutely sure that other modes might not have been employed and have produced the same things, I shall be ready to apologize to the Society for having troubled them with this paper, and can only say, in my excuse, that what is contained in it appeared to me so plausible, I thought it worthy of being laid before them.

I will only add that some of the figures, produced according to the methods here proposed, have peculiar properties which are very remarkable.

Those of the square are well known, and have in all times given it a decided preference: such as the equality of its sides, as well as its angles, and the square of its diagonal being exactly double of the square itself.

Fig. 63, in Pl. XXXIV. has the following properties peculiar to it. First, that its sides are to each other as the side to the diagonal of a square; and secondly, that if it be bisected by a right line parallel to its shorter sides, the two halves will not only be precisely similar to one another, but each also precisely similar to the whole.

Fig. 64, in the same Plate, produced by the length and breadth of the mysterious figure in its simplest form, has many properties which are singular and extremely striking indeed. First, it may be cut by right lines drawn parallel to its shorter sides into three equal parts, all precisely and mathematically similar to each other and to the whole, and we may repeat the operation for ever. By thus trisecting this rectangle we effect no change: we cause no alteration: we get nothing but the same figure again. And it is evident no other rectangle can have the same property: it is absolutely impossible that it should: 2dly, If one third part be cut off by a right line parallel to the shorter sides, the remaining two thirds will be precisely similar to one half of the figure, cut off by a right line parallel to the same sides: 3dly, If a square be cut off from it, (see the same Plate, Fig. 65), by a right line parallel to its shorter sides, the remaining rectangle will be similar to that Fig. 63, although not in a mathematical sense, but so nearly, that the architects might, for their purposes, consider it as the same: 4thly, If a square be also cut off in the same manner from the other extremity, the rectangle which makes a part of both the squares will be precisely and mathematically similar to that on which the plans of King's College Chapel at Cambridge, &c. are formed, and which we have considered as the extreme or greatest proportion of length to breadth that the oldest architects were accustomed to admit: 5thly, The diagonal of the figure is exactly double one of its shorter sides.

I would by no means indulge in conjectures as to the reference these figures might possibly have to the most sacred mysteries of religion: independently of any such allusion, their properties are of themselves sufficiently extraordinary to have struck all who had observed them.

But I am not arguing, nor would I be understood to suppose, that because the old architects were much attached to the figures thus produced, and made constant use of them in their art, every thing they did was entirely regulated by them; or that there were no others which they might also hold in great estimation. A sort of excellence seems to have been attributed to regular figures of all kinds; and the circle and the square were regarded as of the highest order, as the acme and very emblems of perfection. Ideas of perfection are fixed and permanent; not mutable and fluctuating like those of beauty; which are ever undefined; nor liable like them, to be disturbed by fashion; and perhaps it is to this very cause that the admirable uniformity, harmony, and congruity, of the ancient architecture we are treating of, is in a great measure to be ascribed.

SOME FURTHER EXPLANATION AND ACCOUNT OF THE FIGURES IN THE PLATES, XX—XXXIV.

Fig. 1. St. John Lateran's Church, at Rome—according to Ciampini's plan: outside.

2. Old St. Peter's Church, at Rome, from plans in Bonanni, and Ciampini: outside.

3. The Chapel in the Tower, London—from Mr. Carter's plan: inside.

4. Bildwas Abbey Church—from Mr. Britton's plan.

5. Lestwithiel Church, Cornwall—from a plan in the Philosophical Transactions, Vol. L. p. 176.

6. St. Mary Magdalen's Chapel, Hereford—from the plan published by the Society of Antiquaries.

7. Croyland Church. Mr. Essex's plan of the church as he thought it was originally built, in No. 2. of the Bibliotheca Topographica Britannica: outside.

8. Lincoln Cathedral, as originally built. Mr. Essex's plan, in the 4th Vol. of the Archaeologia.

Fig. 9. Ely Cathedral, as originally built—from Bentham's plan, in his History of Ely.

10. Great Wilbraham Church, in Cambridgeshire, according to a plan measured for me by a friend, who lives there: inside measure. This plan is curious on account of the narrowness of the chancel, or eastern part of the church, in comparison of the nave, and transept; which seems to be in some sort accounted for by the application of the Vesica Piscis to it in one of its forms: and perhaps the exact coincidence may be considered as an argument for that figure's having been used in its formation.

11. The Abbey Church of Bath, begun soon after 1495, from Carter's large plan, published by the Society of Antiquaries.

12. Runcton Holm Church, Norfolk. I think its plan was set out thus, but I did not measure it myself.

13. Church of the Hospital at Dunwich. Wilkins's plan, in the Archaeologia.

14. Stewkley Church, Buckinghamshire, as I make it out from Mr. Lysons's plan.

15. Stuntney Church, near Ely.

16. St. Giles's Church, Cambridge—my own plan. The agreement of the Vesica with the plan of this Church is very singular: the wall of the west end does not stand at right angles to those of the sides, one of which is considerably shorter than the other, and the length of the Vesica will not agree with either of them, but it agrees exactly with a line drawn parallel to them from A to B along the middle of the nave. This seems to be an argument for the Vesica's having been actually used, in setting out the plan. This church has been lately altered, and the curiosity of it is now destroyed.

17. Barfreston Church, in Kent—Mr. Britton's plan.

18. Breisworth Church, Suffolk—my own plan.

19. Stourbridge Chapel—from a plan drawn by William Wilkins, Esq. the architect.

N. B. All these (Fig. 12—19) are old Norman or Saxon buildings.

20. Little Maplested Church, Essex, inside measure—from Mr. Carter's plan.

21. Temple Church, London—from the plan published by the Society of Antiquaries.

22. Salisbury Cathedral: outside measure—from Mr. Dodsworth's plan.

Fig. 23. Chedgrave Church, Norfolk: a very small and ancient Norman church, only 14 feet 4 inches wide—my own plan.

24. Barnwell Church, Cambridge. The rationale of its plan: let A B be the length given, the breadth C D would be determined as in the figure.[a] It is of early Gothic architecture, of about the time of king John.

25. Frenze Church, near Diss, in Norfolk. This is a small Gothic church, of a style a little later; but its plan is nearly the same.

26. Little St. Mary's Church, Cambridge: an elegant Gothic building of the time of Edward IIId. Its plan seems to have been formed in the same manner with those of the two last; A B being the line given for its length.

27. King's College Chapel, Cambridge—outside measure. The general proportions of this celebrated building appear to have been determined by the very same form of the Vesica Piscis; as may be seen in the figure. The architect then cut its breadth into four equal parts; two of which, in the middle, he assigned for the width of the building within, and employed the remaining two for the walls, side chapels, and buttresses.

28. The rectangles produced by the mean form of the Vesica Piscis, and the six others drawn according to so many definite forms of it, determined by dividing the given right line M N into twelve equal parts, as is explained in page 354; perhaps effected by writing some mysterious word of eleven letters upon it, which possibly might also furnish names for them all.

29. The same rectangles, given separately, and only numbered 1, 2, 3, 4, 5, 6, & 7, (as we know not what to call them), in order to point out instances where each appears to have been made use of for a plan. No. 1. being a square, is of the most common use of all for plans of towers, and numberless other buildings: in the church of St. Sophia, at Constantinople, it is taken for the plan of the whole; and for that of the chancel at Bath in a particular way. See Fig. 11. No. 2. the Chancel of Tickencote, in the county of Rutland. No. 3. Chancels of the conventual church at Ely, and of Stuntney and Hawkston, in Cambridgeshire. No. 4. Chancel of Stourbridge chapel, and the N. Chapel of Willingham church, Cambridgeshire. No. 5. Chancel of St. Giles's, Cambridge. No. 6. of this I have

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[a] That is, the length A B : breadth C D : : Sine : Versed Sine of 30°.

never met with any instance where it has been taken for a plan; but half of its Vesica, I believe, is not uncommon as the arch of a Gothic window. No. 7. is the rectangle produced by the Vesica Piscis in its mean form, and is the most frequently used of any for the plan of the nave, chancel, chapel, &c. of very ancient, Saxon, Norman, and Gothic churches, chapels and other religious buildings: and it may be sufficient to point out the three instances of the naves of St. Giles's, and Stourbridge chapel, at Cambridge, and the chapel in the Tower of London.

Fig. 30. Nos. 8, 9, 10, 11, 12, and 13, are six other rectangles, longer in proportion to their breadth,[a] produced by describing their respective Vesicæ, from centers taken on the line M N (Fig. 28.) given for their breadth produced both ways, at the distance of $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, and the whole of that breadth on the outside of the figure. We find the first, No. 8. in the old chapel at Kingston, and the chancel at Empingham, in the county of Rutland.[b] 2d. No. 9. Nave of St. Joseph's Chapel, Glastonbury, and Prior Crawden's elegant chapel at Ely. 3d. No. 10. Nave of St. Joseph's Chapel at Glastonbury, and Bishop Montacute's Chapel, now Trinity church, at Ely. 4th. No. 11. Of this I have yet found no instance. 5th. No. 12. the beautiful Chapel in the Bishop's Palace at Wells, and the Beauchamp Chapel at Warwick. 6th. No. 13. Nave of Burnham Ulph Church, Norfolk.

31. The mean and two extreme proportions of the two dimensions of plane figures in Gothic architecture: intended chiefly to shew that in the case where they differ most, the smaller dimension is less than half what it is in the mean proportion.

32. Birchanger Church, Essex. S. Door.

33. Moreton Valence Church Door—from Mr. Lysons's print.

34. Barfreston Church, Kent. S. Door. Construction of the design—from Mr. Britton's print.

35. N. Door of the same Church, as I conceive from Mr. Britton's print that it was designed.

36. Earl's Barton Church, Northamptonshire. S. Porch Door—from Mr. Britton's print.

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[a] See page 354.

[b] This is a double square, and I believe most of these figures will be found to have properties that are singular.

Fig. 37. Malmsbury Abbey Church. Door of the S. Porch—from Mr. Britton's plan in his Ancient Architecture.

38. Littlebury Church, Essex. S. Door—from Mr. Essex's measures, and drawings of my own.

39. Conventual Church, Ely. Choir Door, or rather the arch between the church and the chancel. N. B. This is made out very satisfactorily from Bentham's print in his History of Ely.

40. Durham Cathedral. Lower S. Door—from Mr. Carter's elevation. I think it was designed thus, but I cannot be sure.

41. Cathedral of Orvieto. Great Door—from an elevation of the front of the church, engraved 1714, by Hieron. Frezza.

42. The same, as I conceive it to have been before it was altered by Nicola Pisano in the 13th century.

43. Cathedral of Ovieto. Great Door, with its pediment, &c. which are supposed to have been added by Nic. Pisano.

44. Cathedral of Siena. Great Door—as I gather its design, from an elevation of the front of the church, by Lelio Casalti, of Siena, engraved at Rome 1719, by Max. Limpach.

45. Milton, near Cambridge. Great Arch, the W. side.

46. Stourbridge Chapel, near Cambridge. Great Arch, the W. side.

47, 48, 49, are what I conceive to be very usual methods of designing Norman doors.

50. Nos. 1, 2, 3, and 4, usual methods of designing Saxon and Norman windows.

51. Gothic Door, Window, &c. with its arch of the fourth point, as it is called, but its proportions determined by the mean or principal Vesica Piscis.

52. Gothic Door, Window, or &c. entirely formed on the mean Vesica Piscis; both as to its proportions, and its arch.

53, 54, 55. Gothic Spires whose proportions are determined by different forms of the Vesica Piscis.

56. Salisbury Spire. No. 1. Elevation on a line A C equal to the line a c No. 3. No. 2. Elevation on a line G I equal to g c No. 3. No. 3. its plan inscribed in the circle a c g whose diameter is equal to the line A C, No. 1.

57. Common mode of designing a Saxon or Norman front.

58. Arches of York Cathedral, as far as I can make them out from Mr. Carter's prints.

Fig. 59. Arches of St. Edward's Church, Cambridge. The three beautiful arches at the E. end of the choir at Wells, and those of the eastern part of Westminster Abbey, are formed in the same way.

60. Arches of Salisbury Cathedral—so far as I am able to make them out from Price, and from Mr. Carter's prints.

61. Gothic Door, with its arch of, what is called, the third point, but its proportions those of the mean Vesica Piscis.

62. Gothic Door, formed by a double application of the mean Vesica Piscis, whose arch is half of that figure; but splayed, and increased by mouldings, till it reaches the arch of the fourth point; which is one half of the Vesica Piscis, No. 4. Fig. 29.

63. Rectangle which may be bisected continually into parts similar to itself. See page 362.

64. Rectangle which may be trisected continually into parts similar to itself. See page 362.

65. Same rectangle, with a square cut off from each extremity, including within them both, the rectangle formed on the extreme Vesica Piscis. See page 362.

Fig. 1.

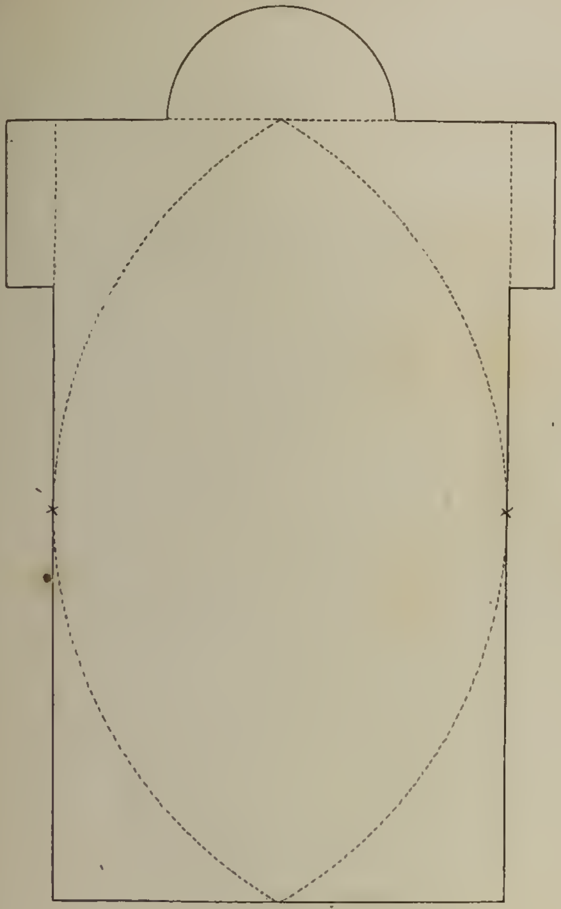
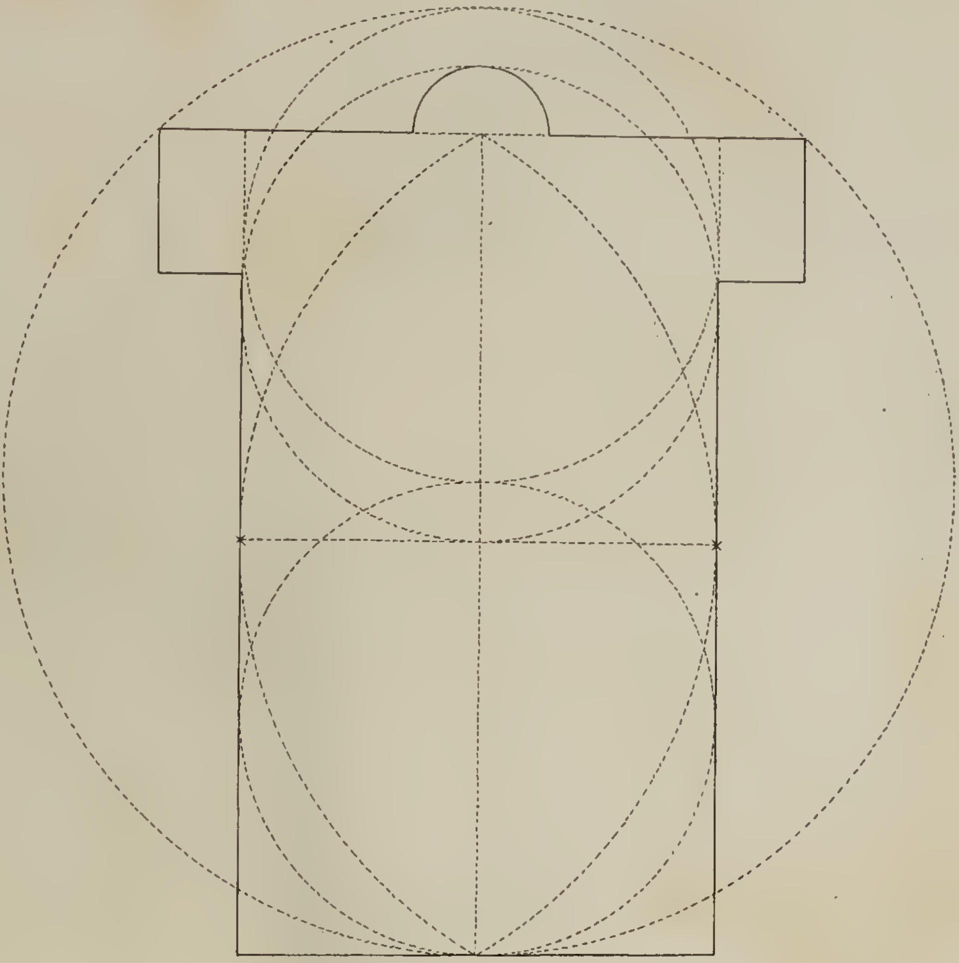
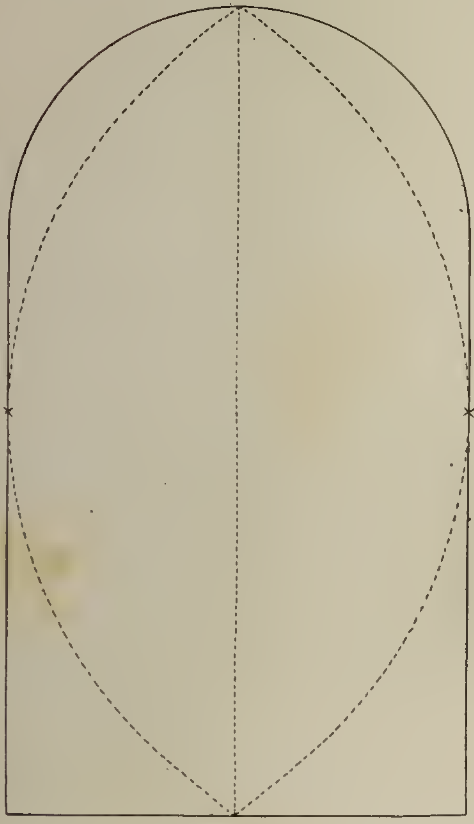


Fig. 2.





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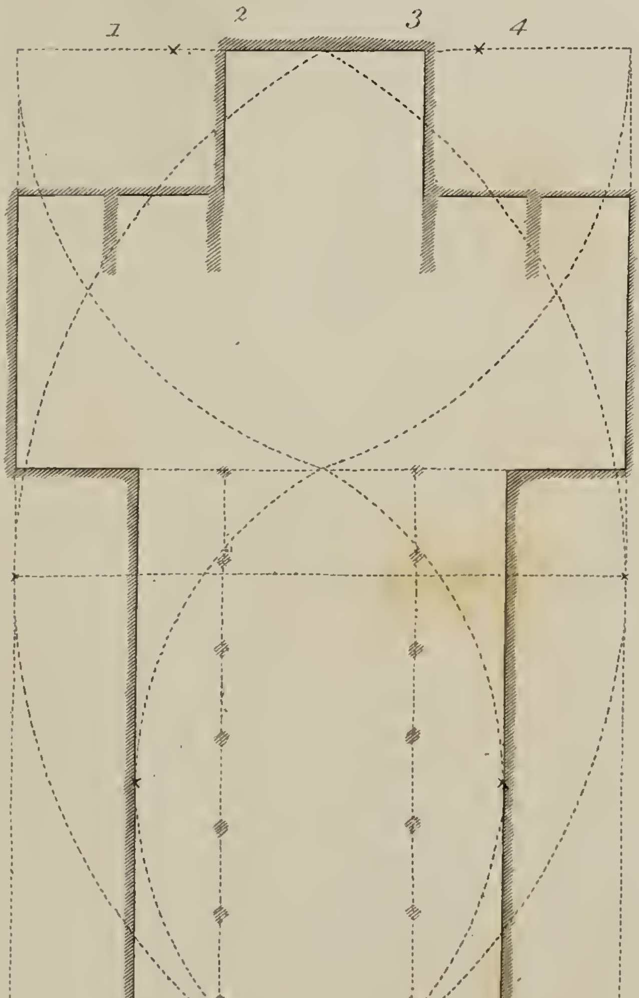

Fig. 4.

T. Kerrich del.

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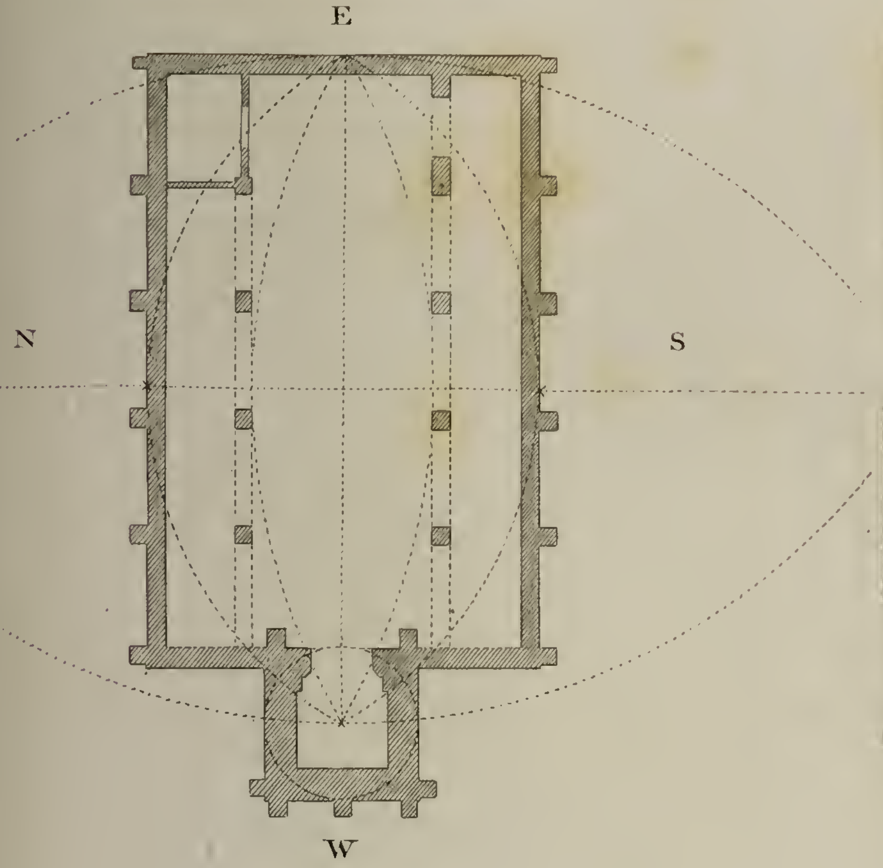
Fig. 5.



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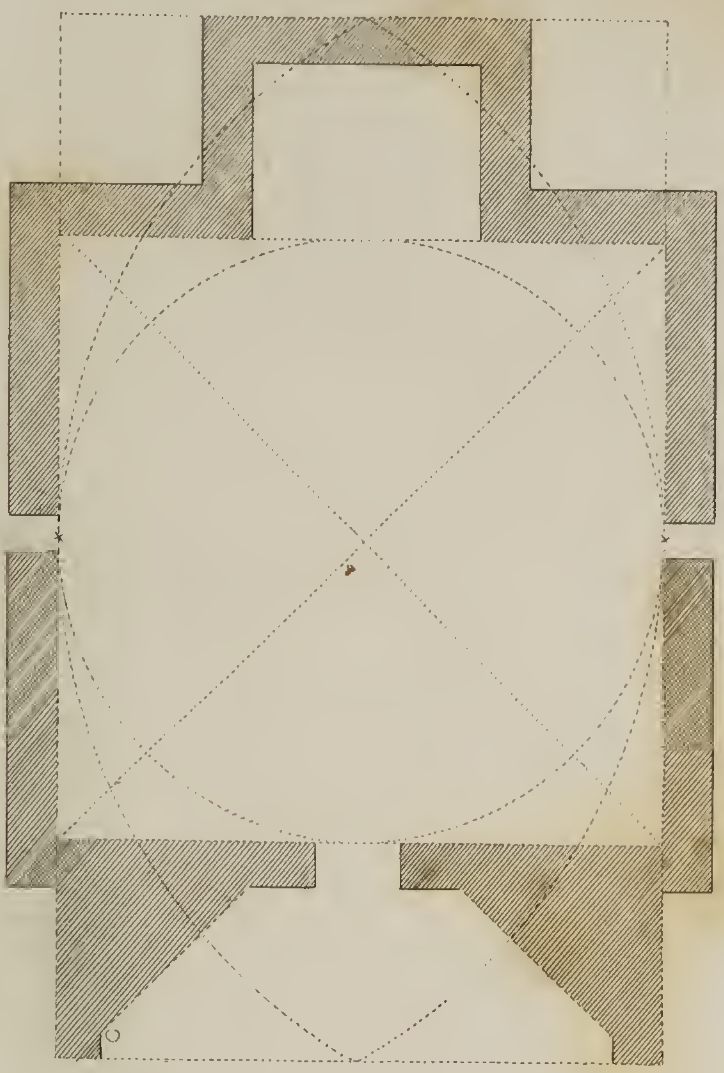

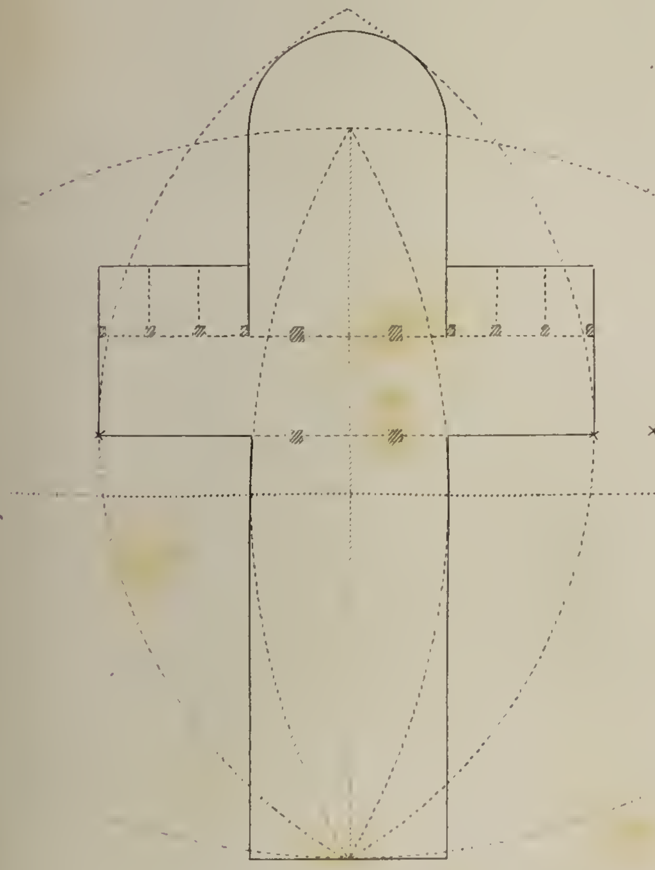

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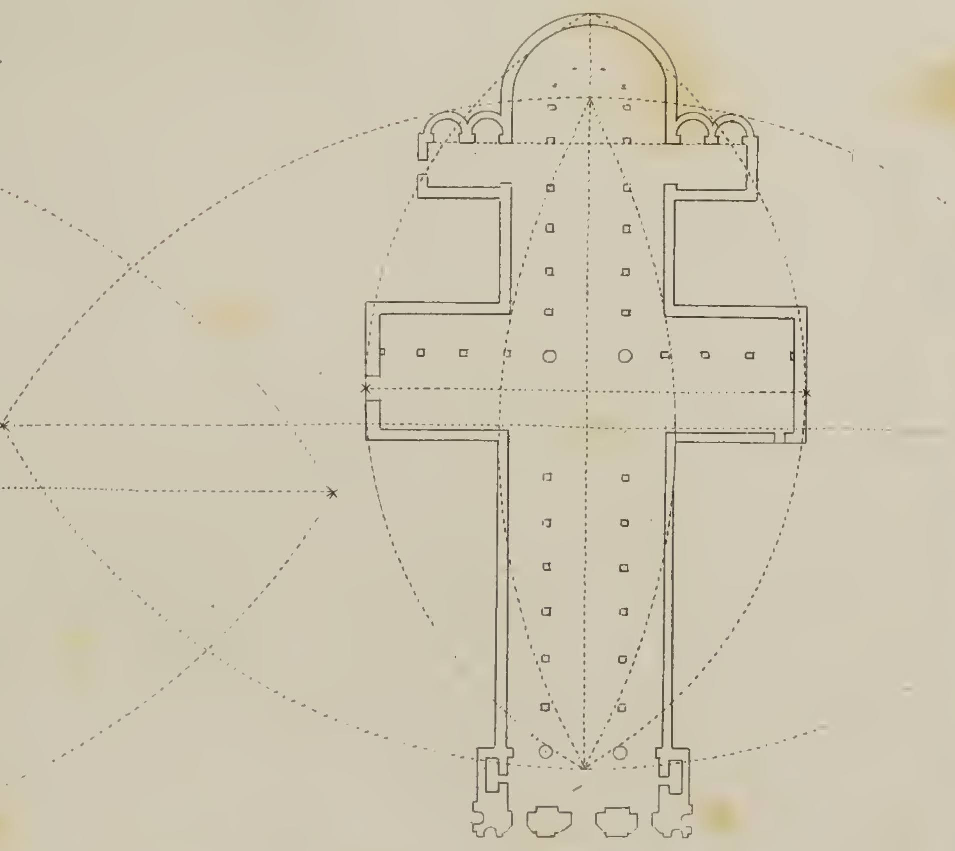

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T. Kerrich del.

J. Basire sc.

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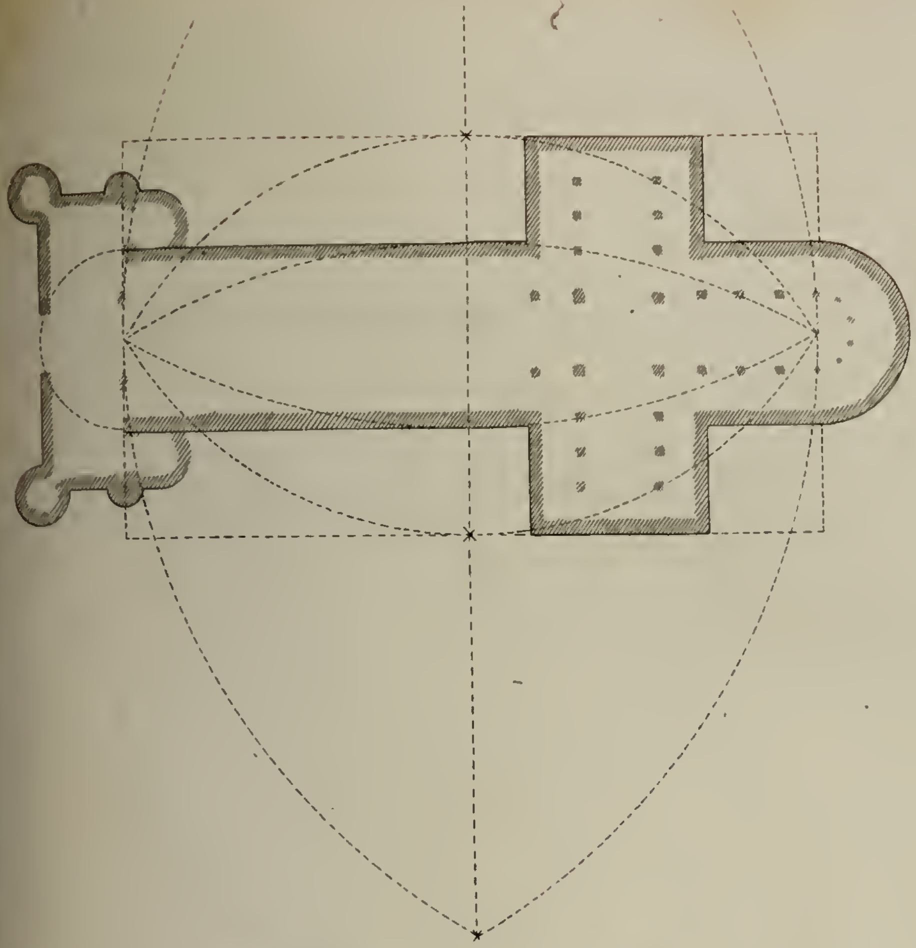

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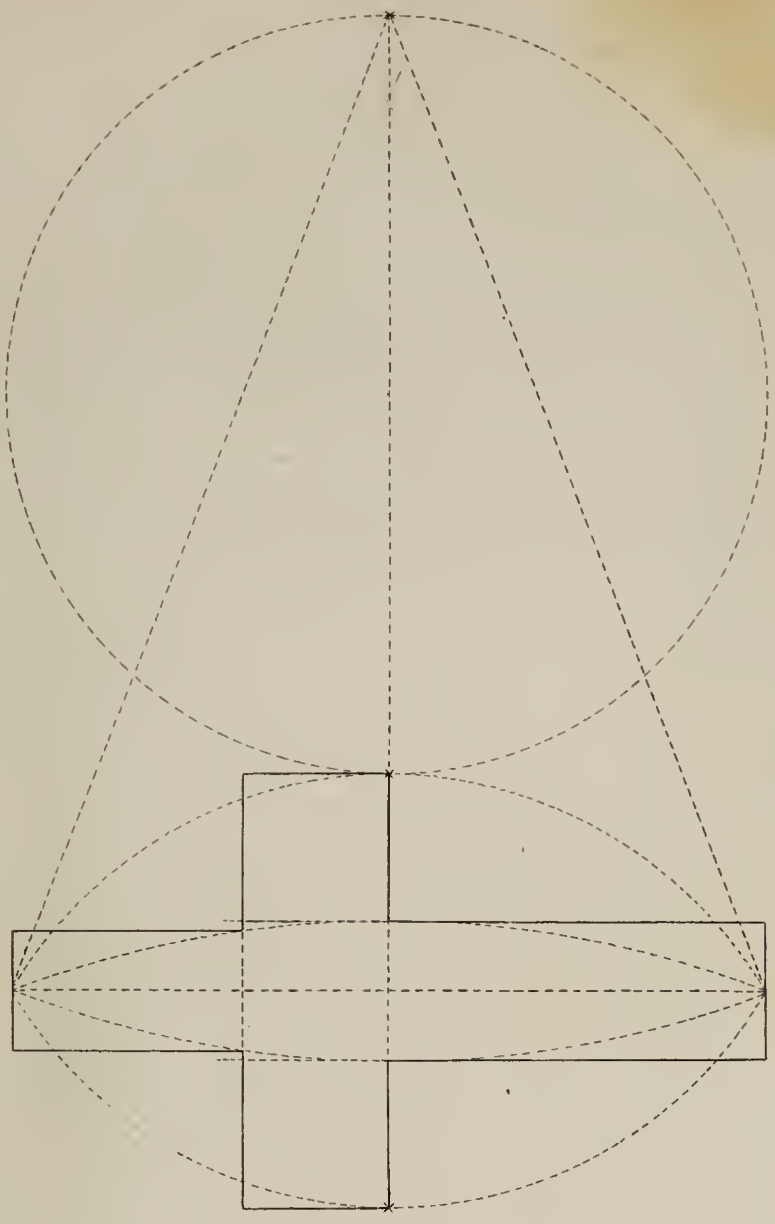

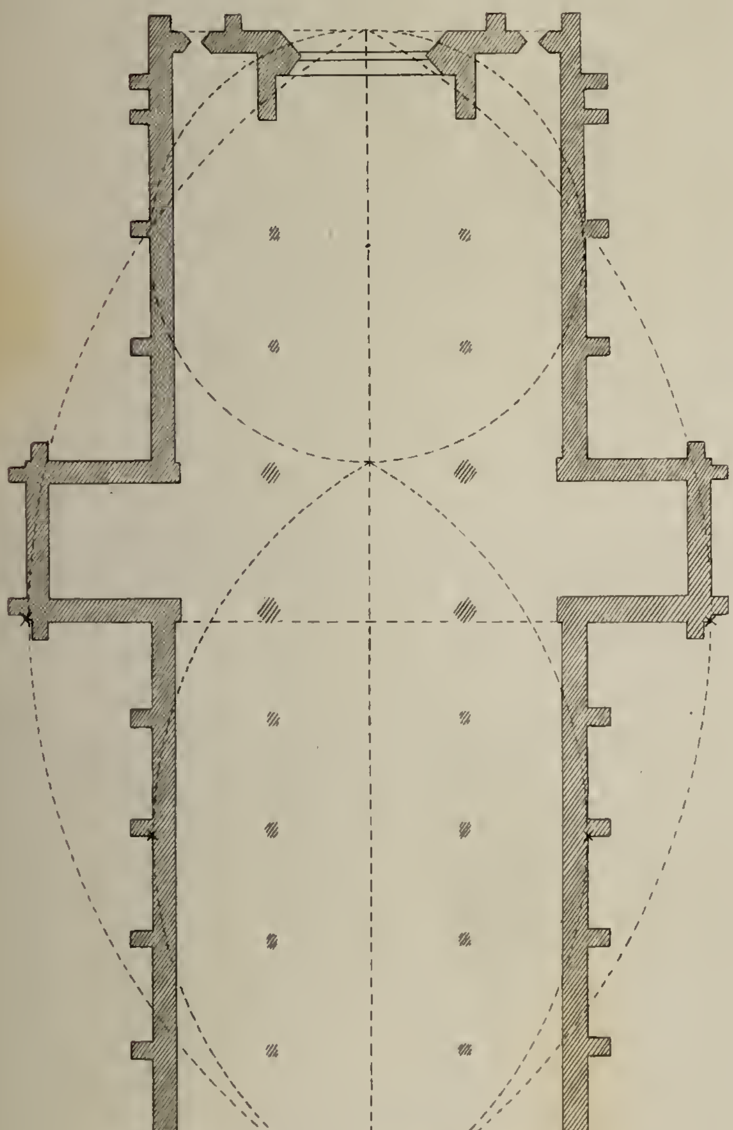

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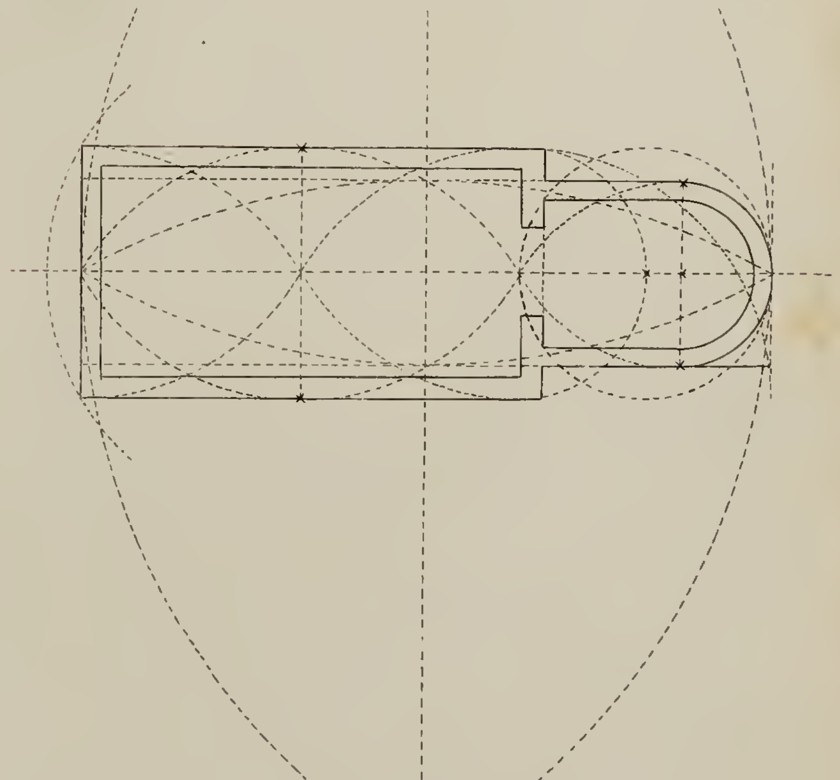

Fig. 12.

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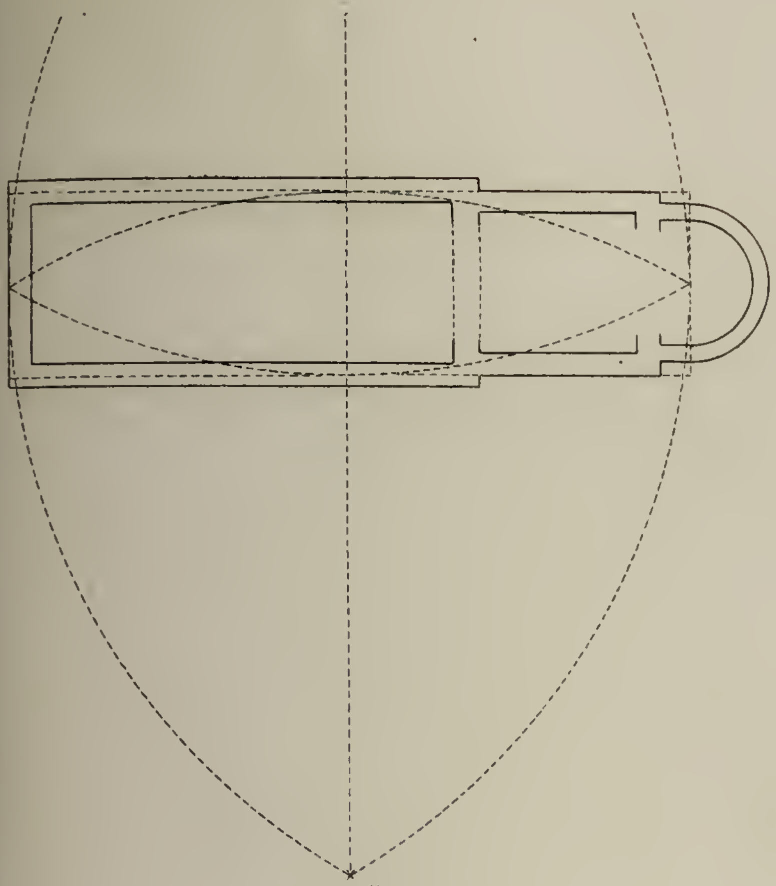
Js Basire sc.

Plate XXIII.

Fig. 13



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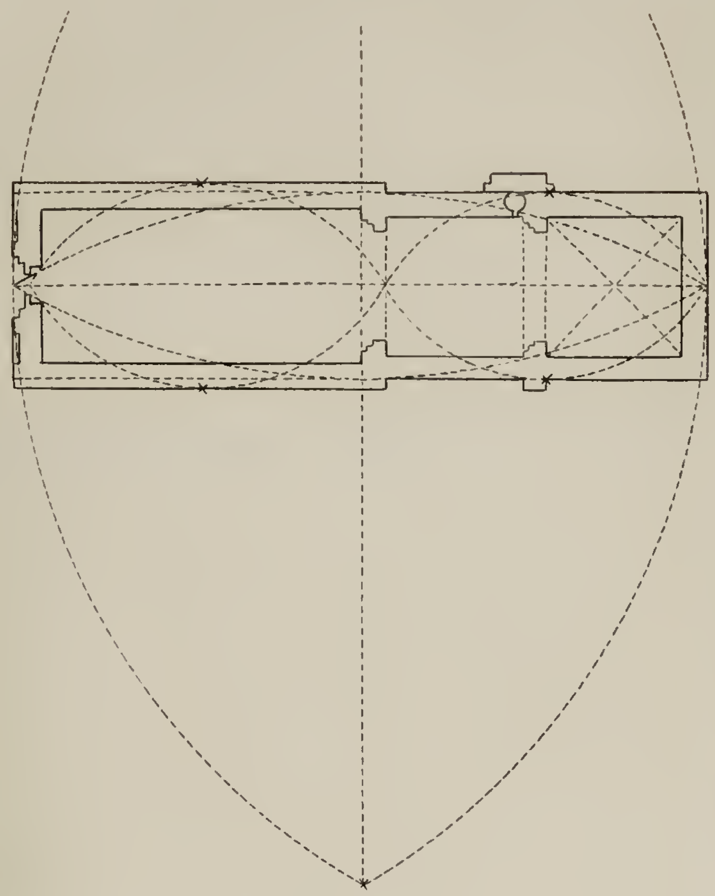

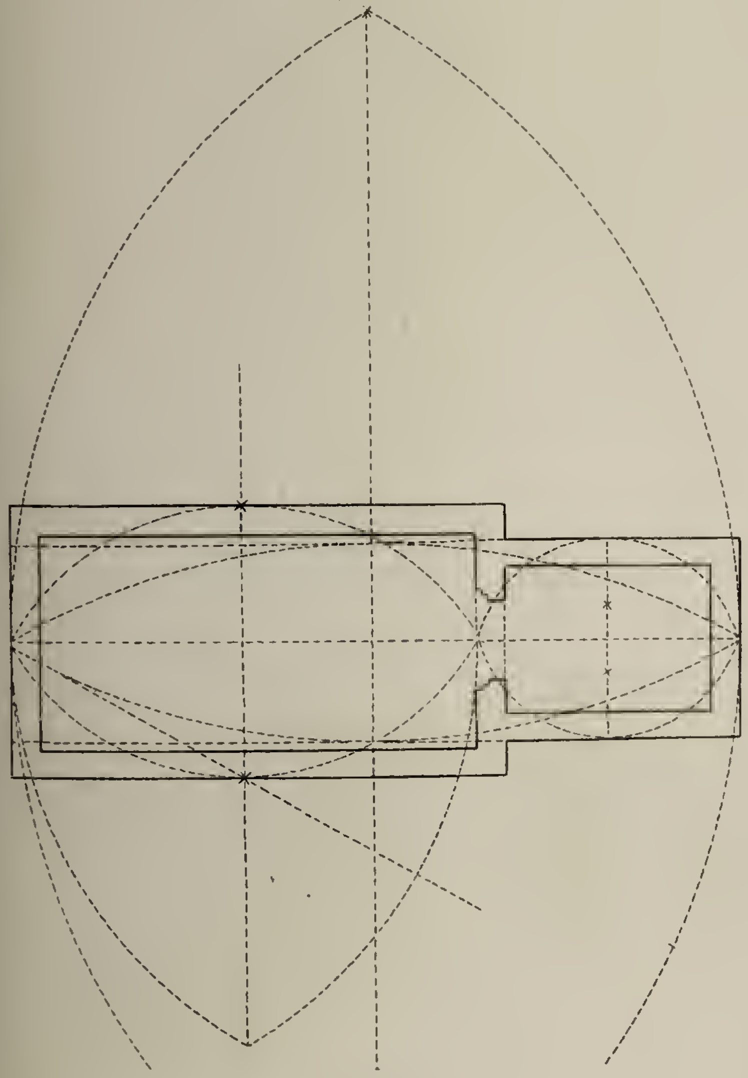

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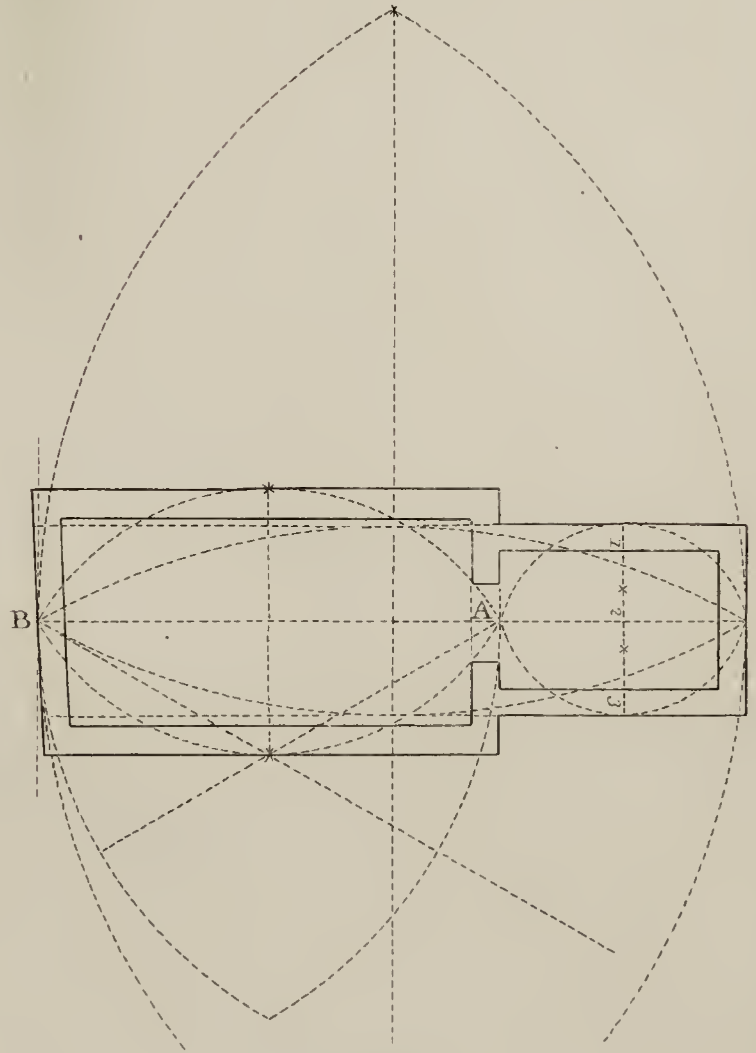
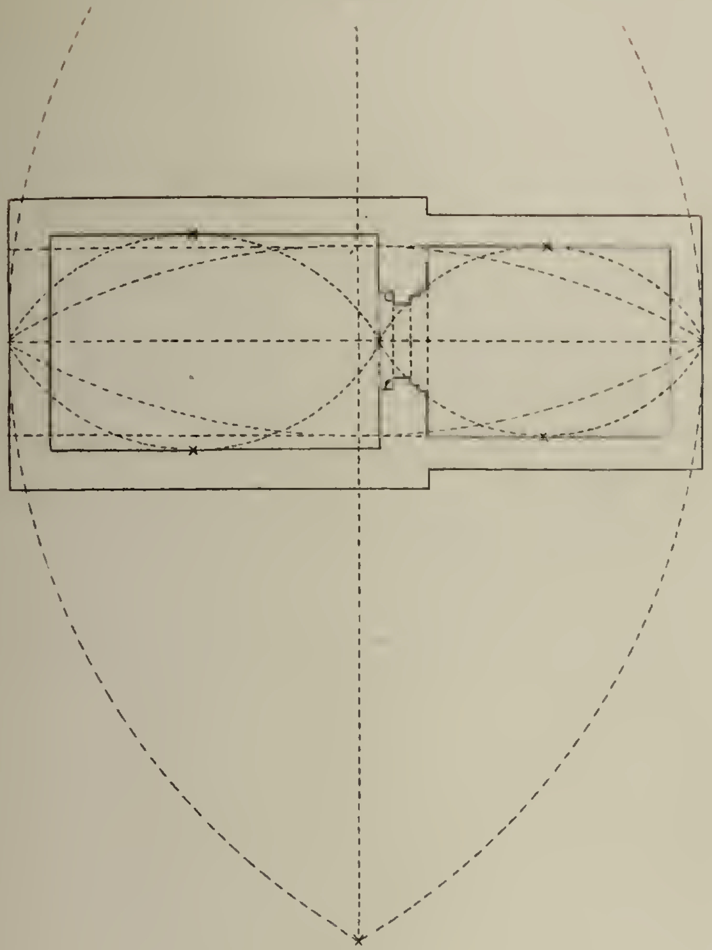


Fig. 16.

T. Kerrich del.
Jª Basire sc.

Fig. 17.



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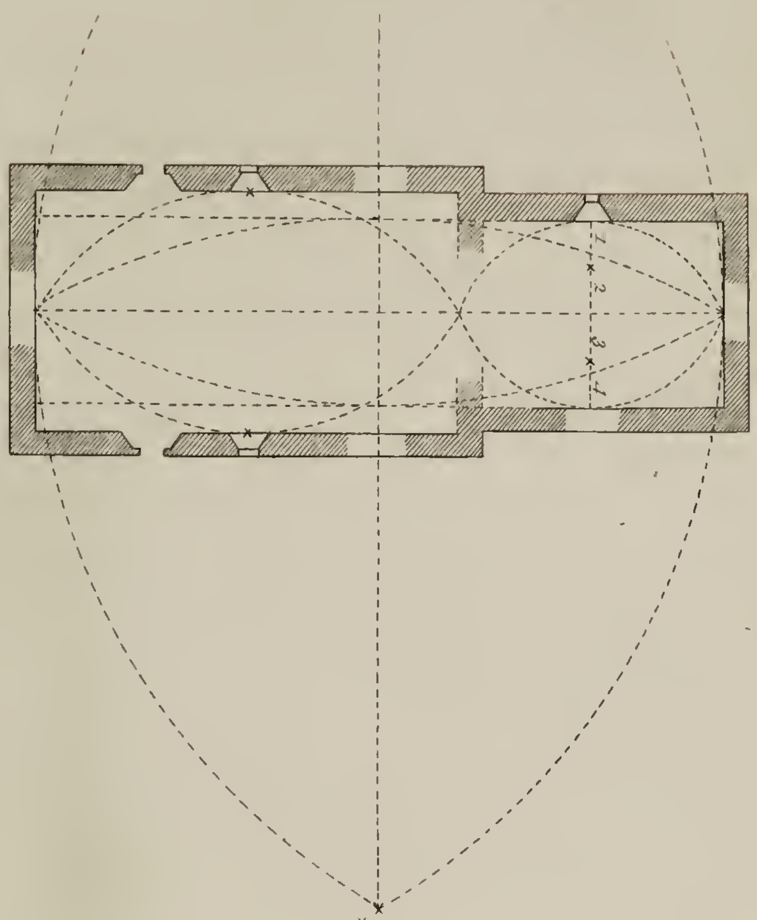

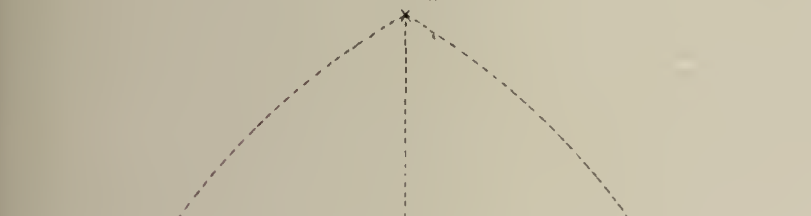

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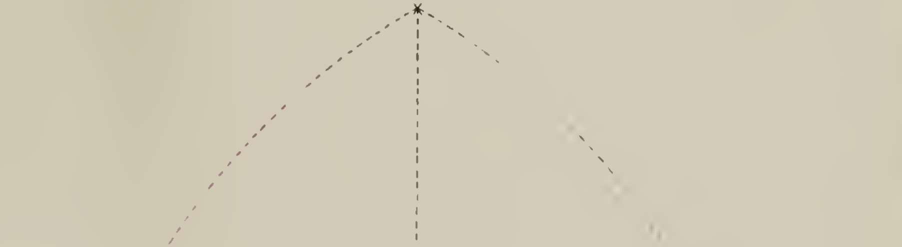
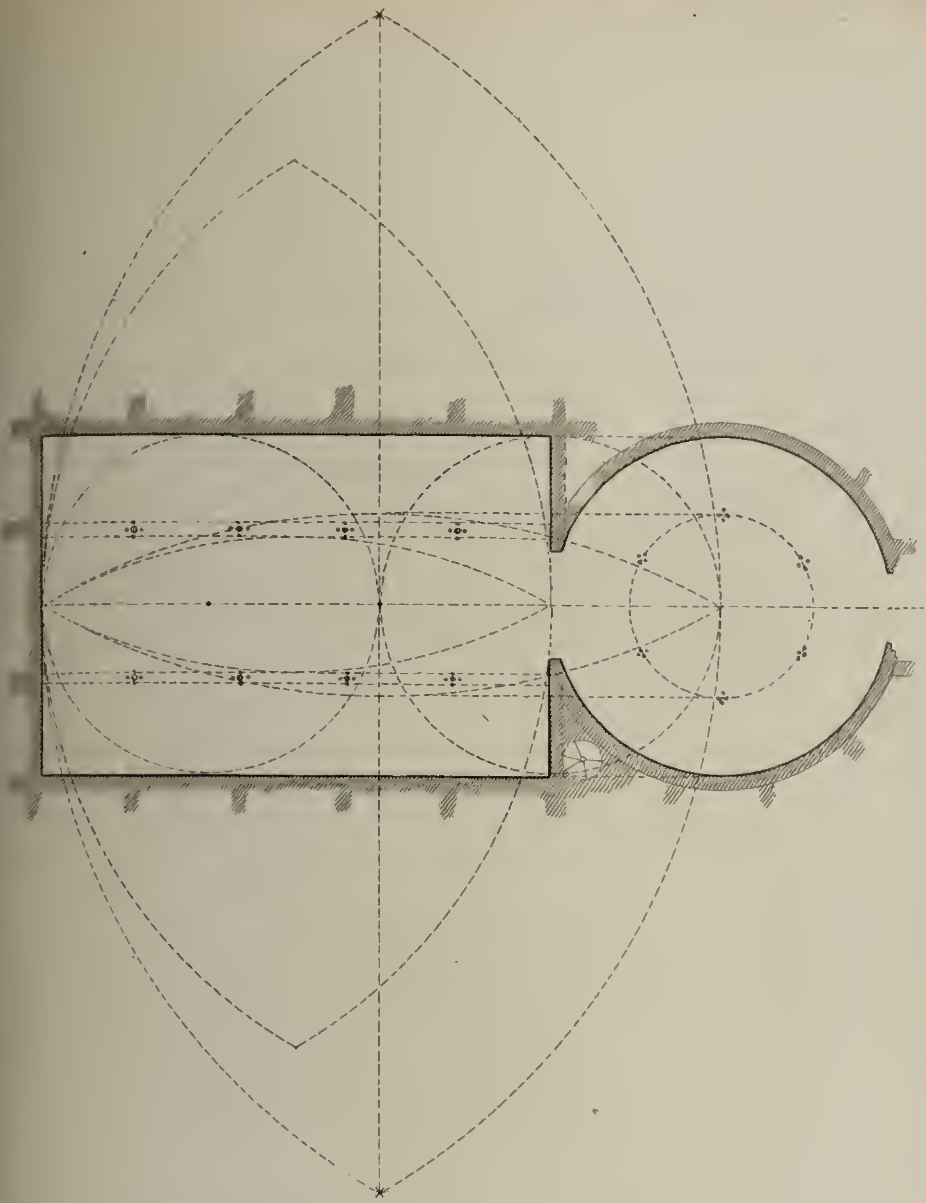


Fig. 20.

T. Kerrich del.

Js. Basire sc.

Fig. 21.



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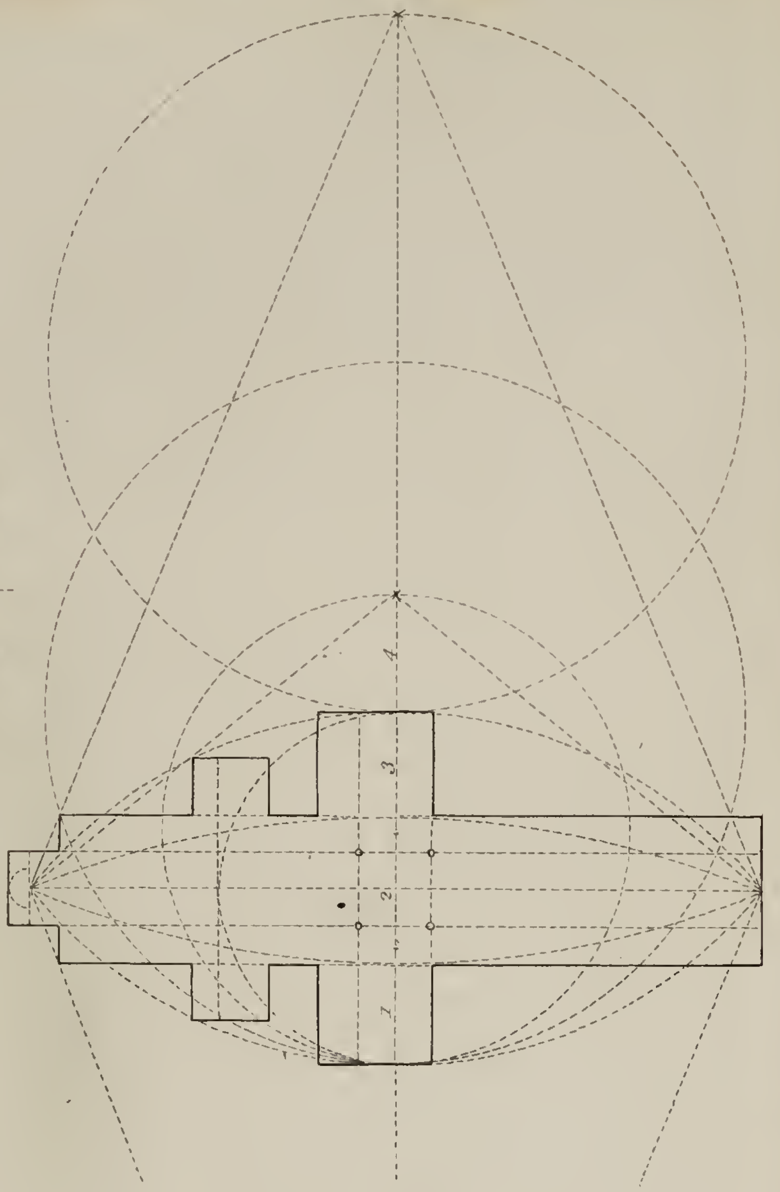

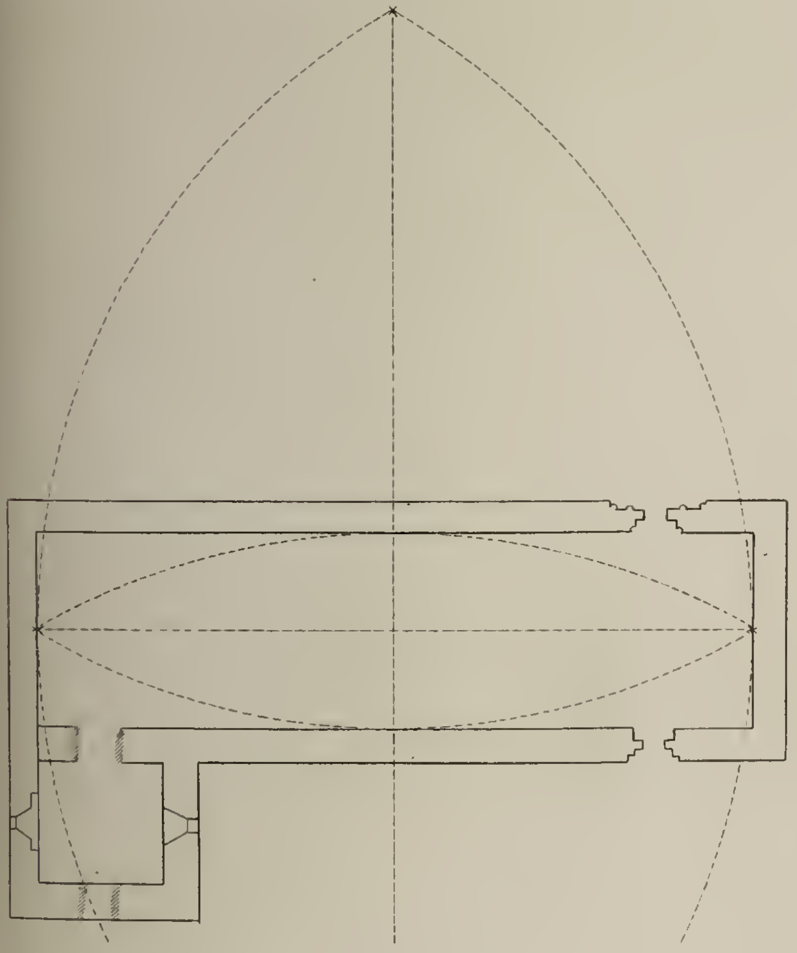

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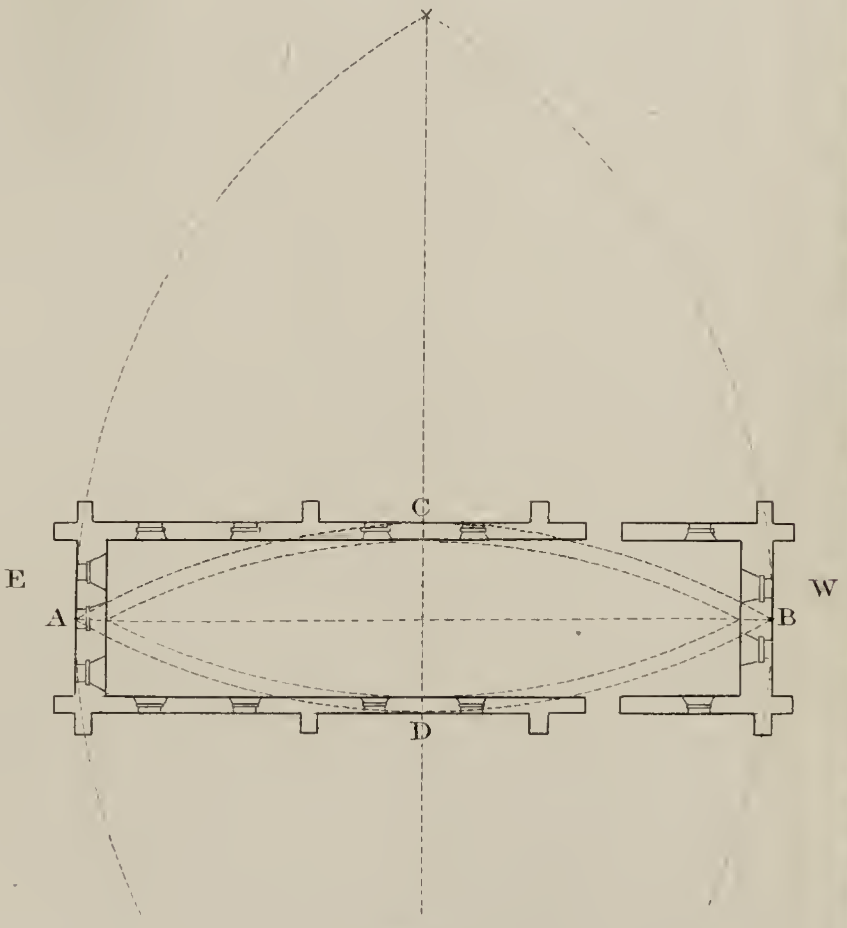

Fig. 24.

T. Kerrich del.

Jˢ Basire sc.

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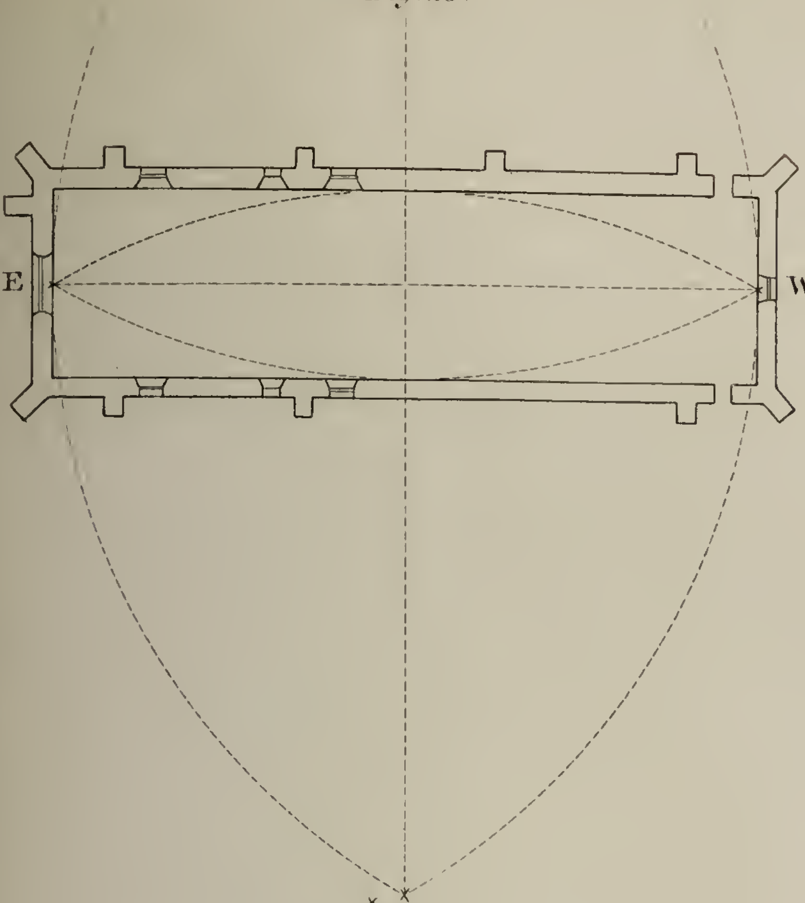

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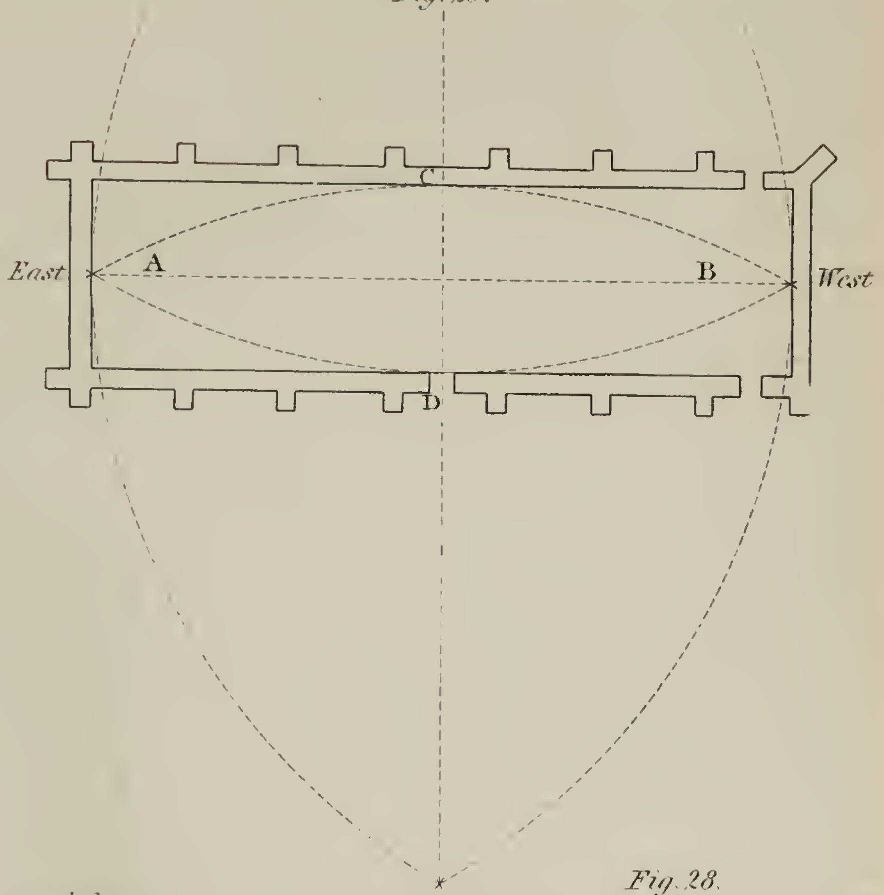

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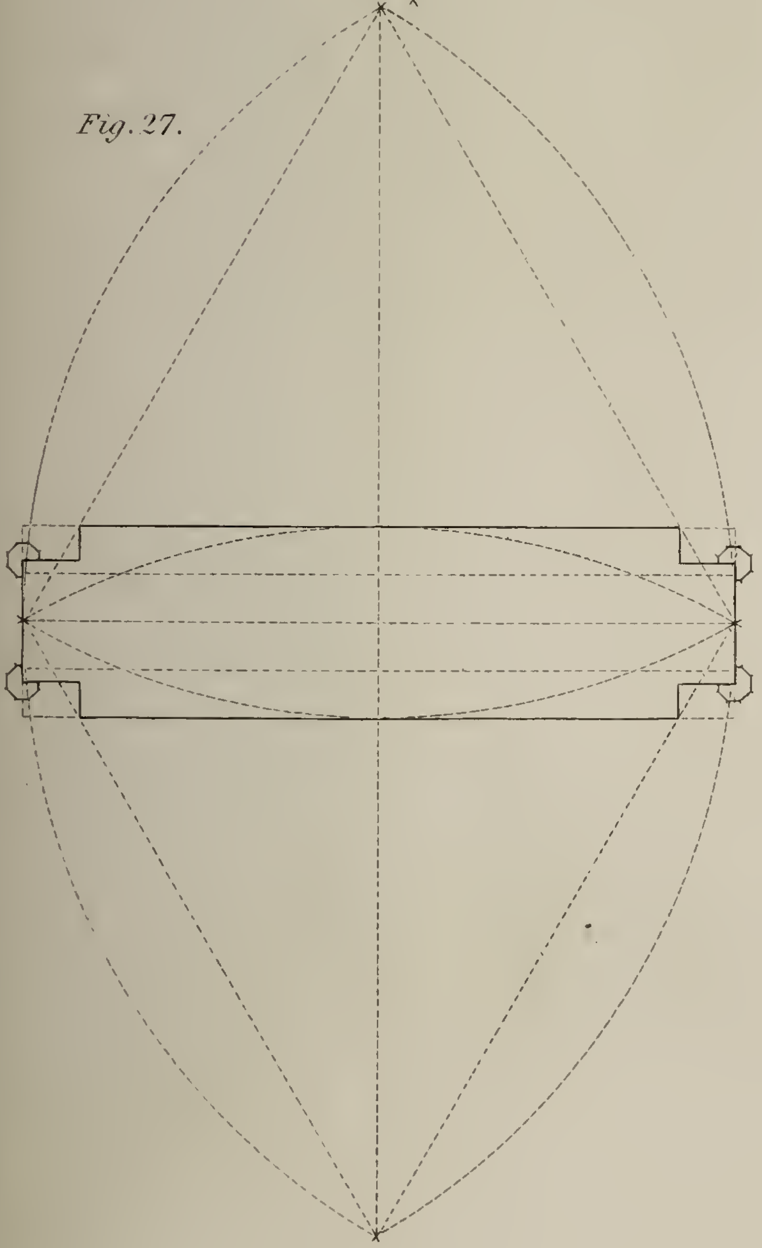

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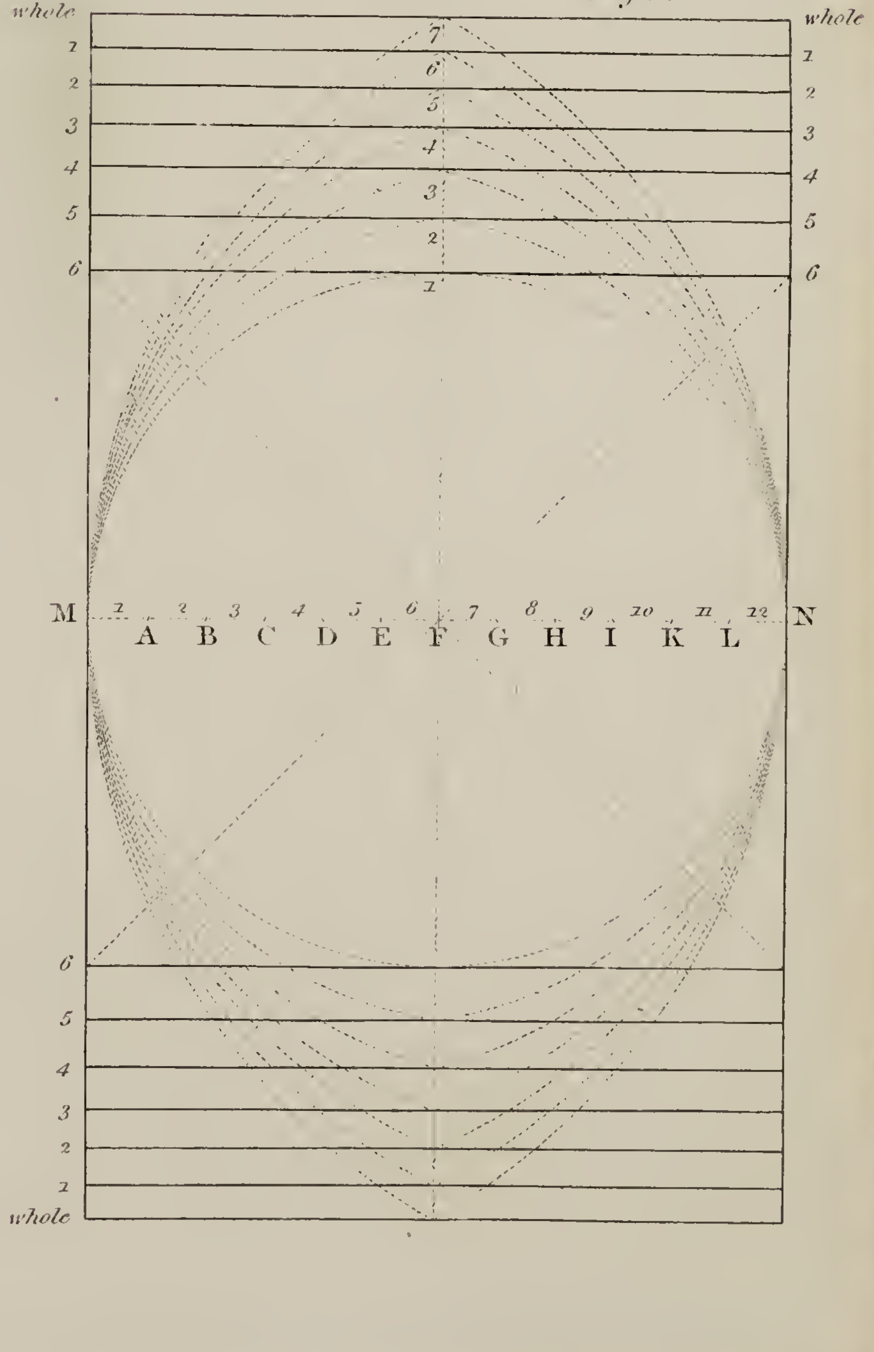

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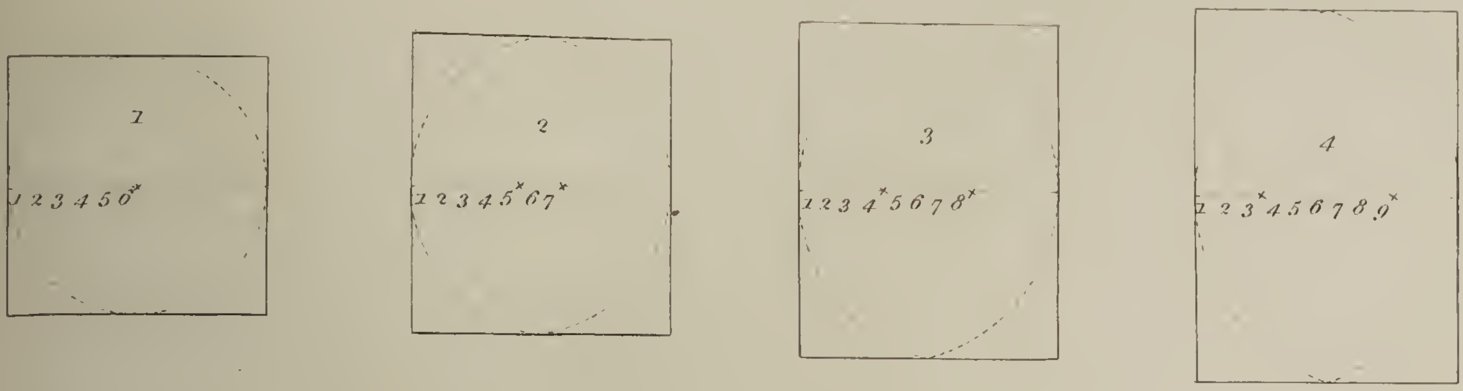

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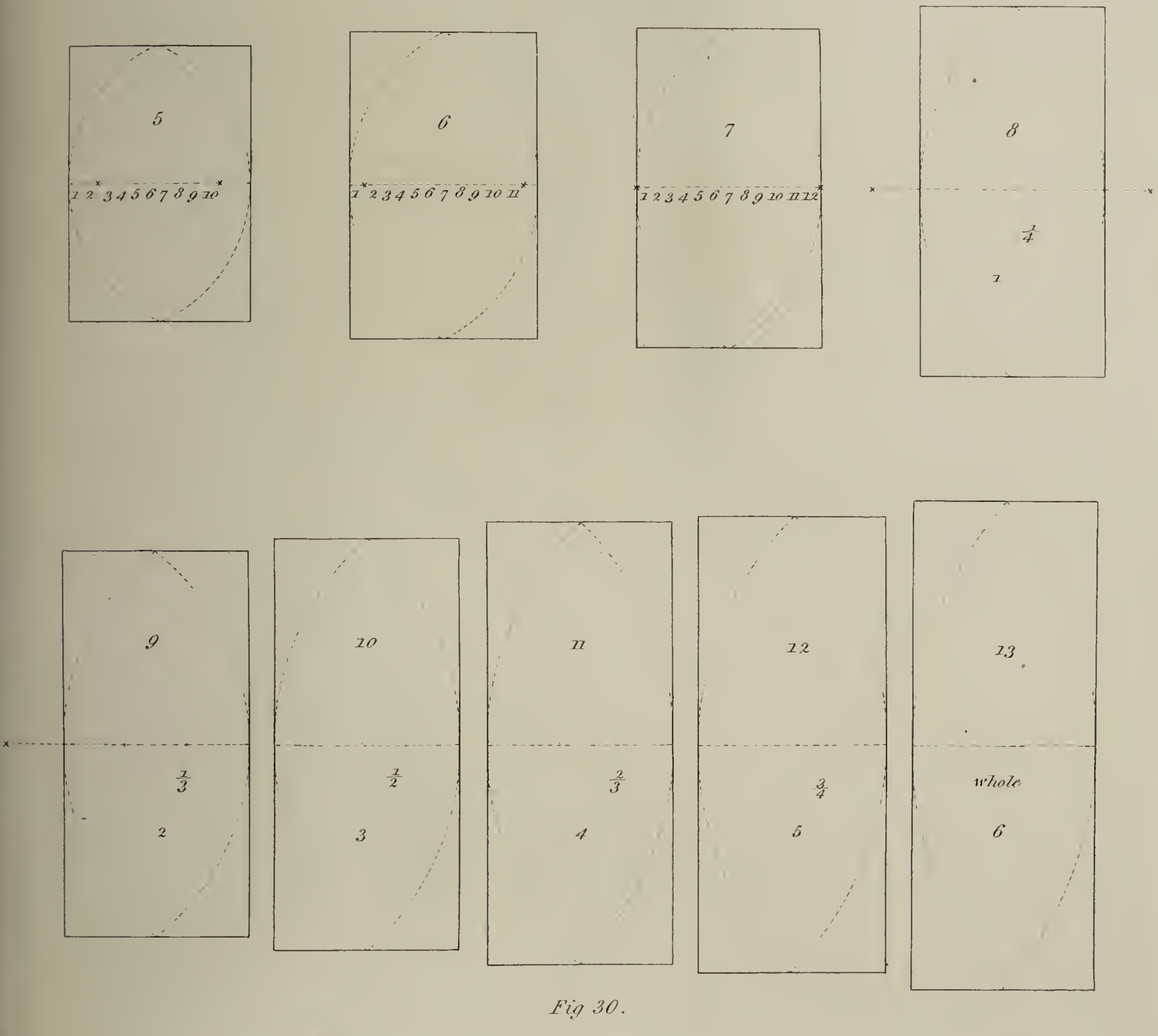

Fig 30.

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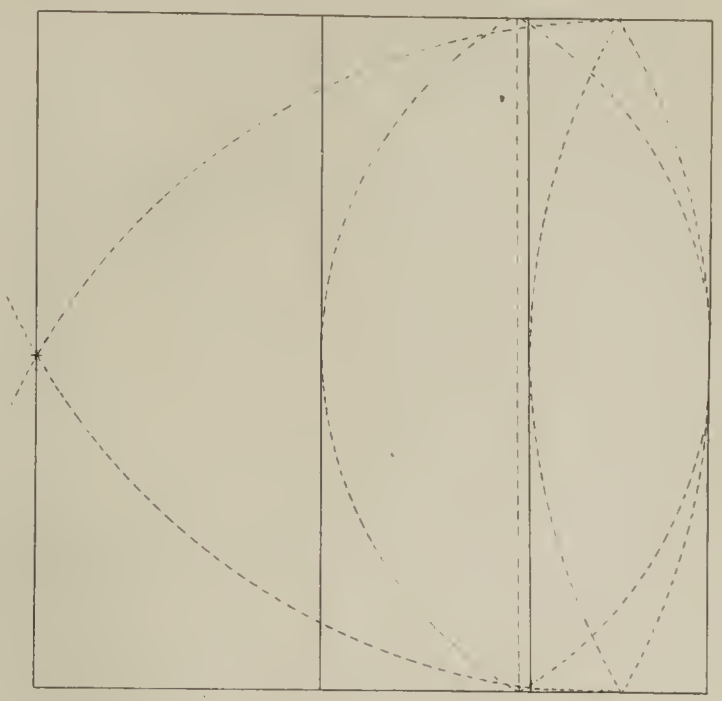

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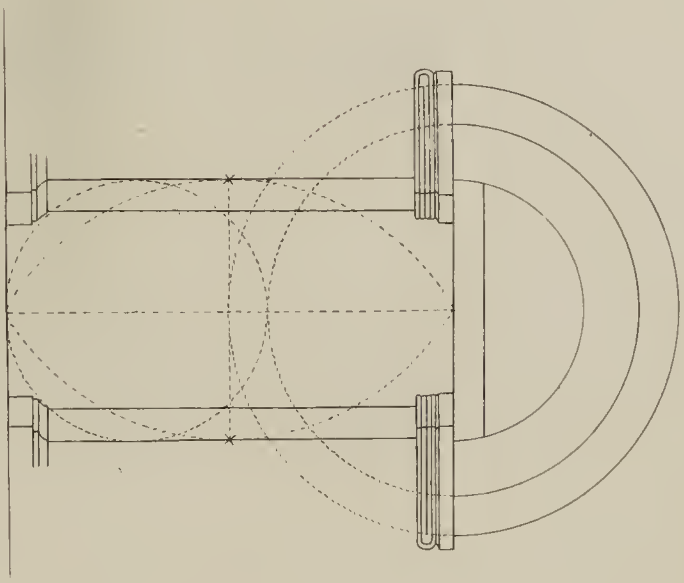

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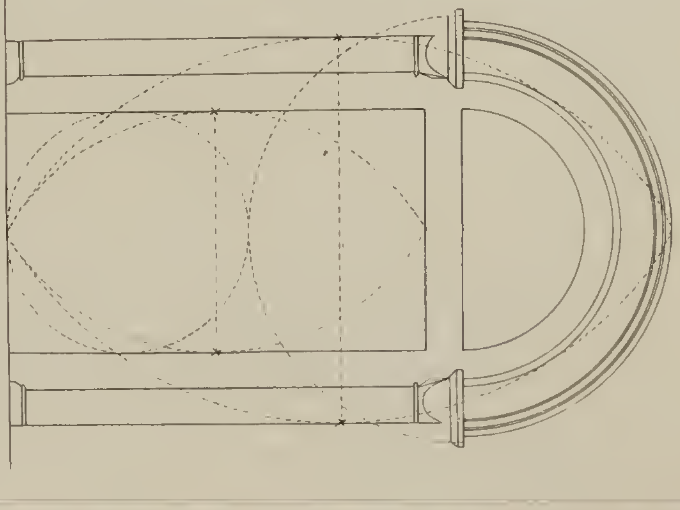

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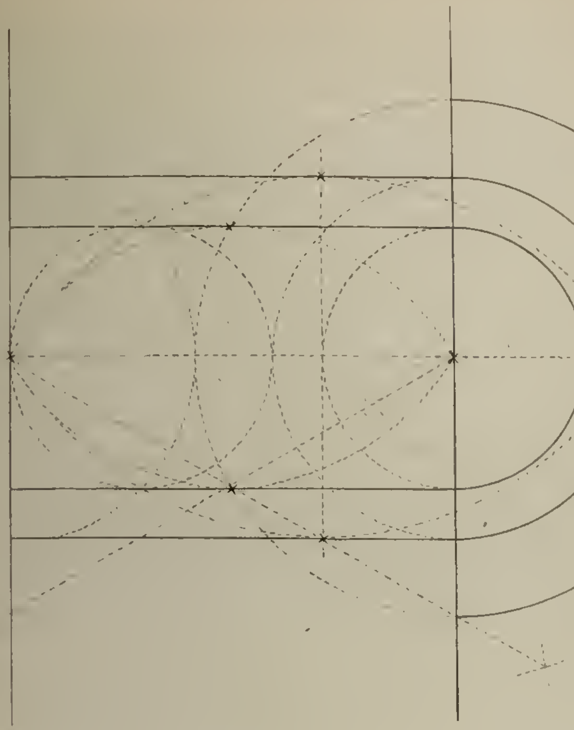

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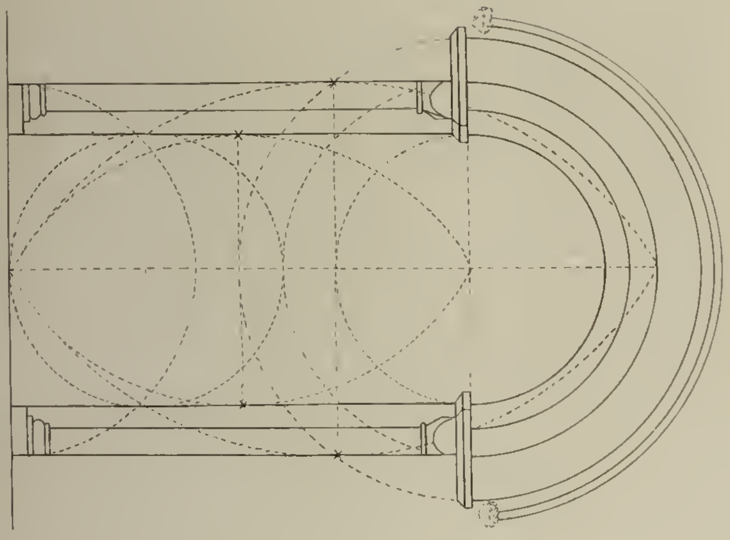

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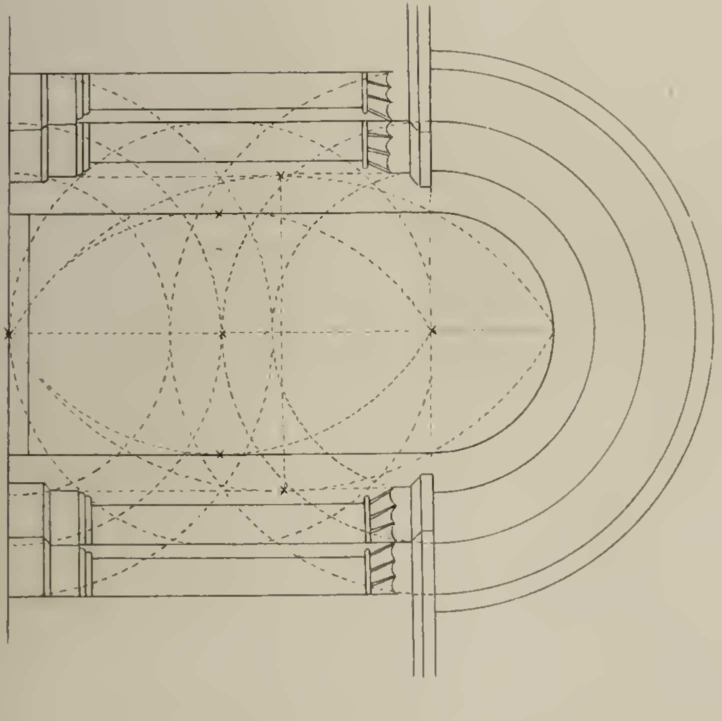

Fig. 36.

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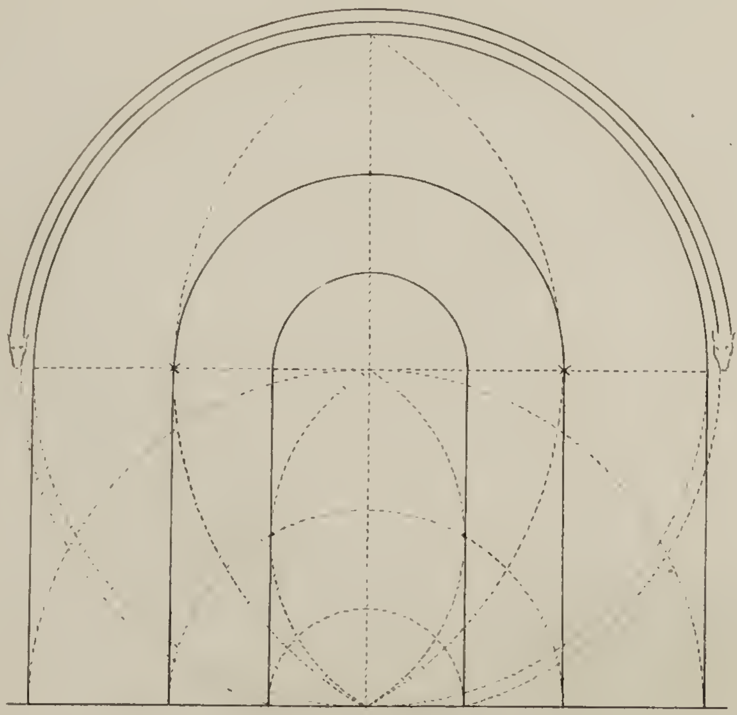
Fig. 37.



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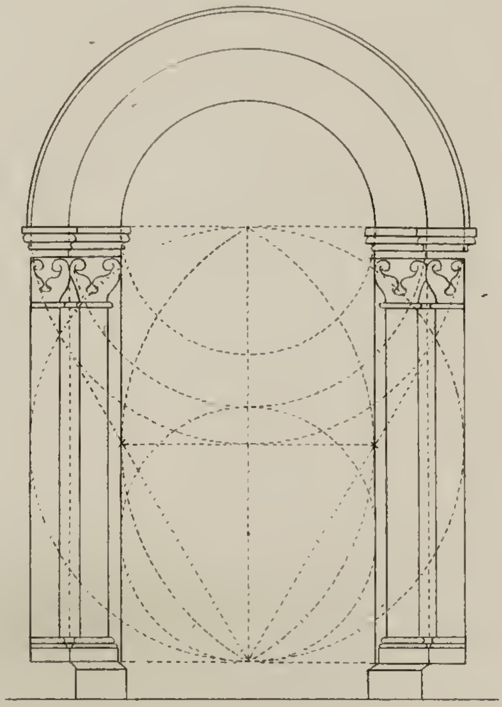

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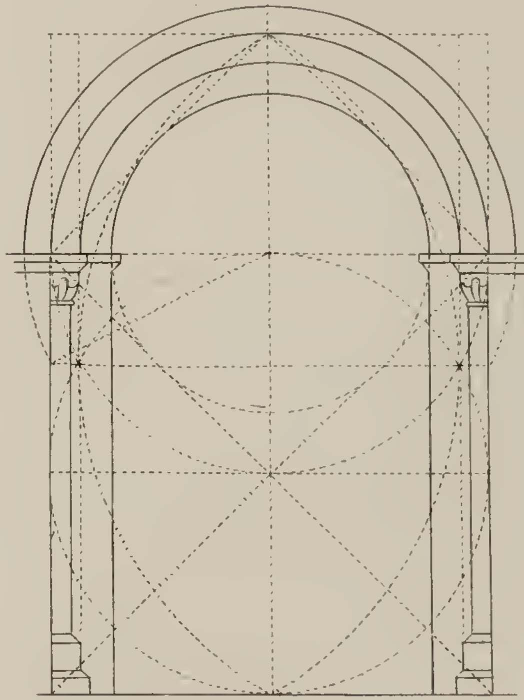

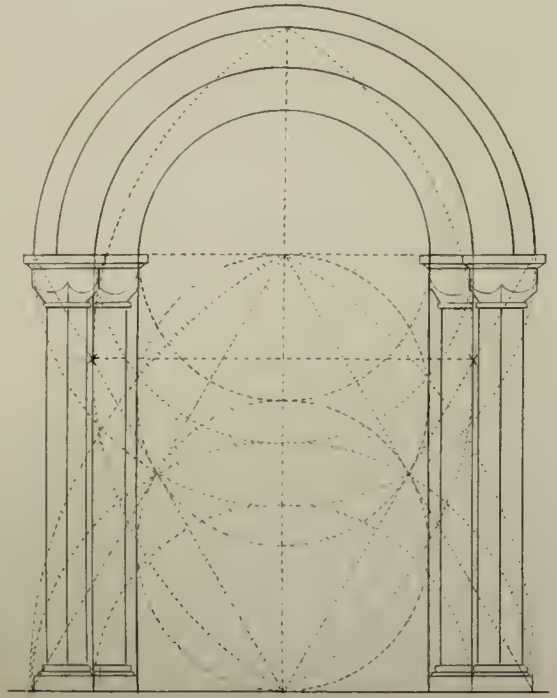

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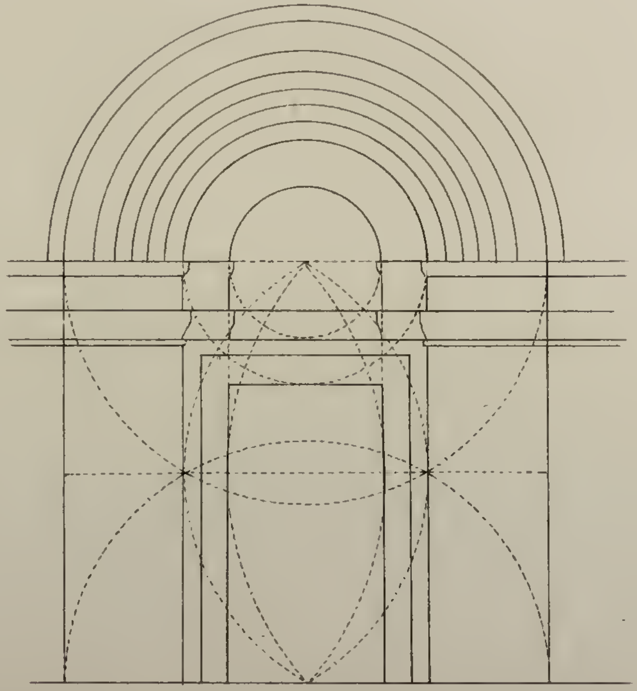

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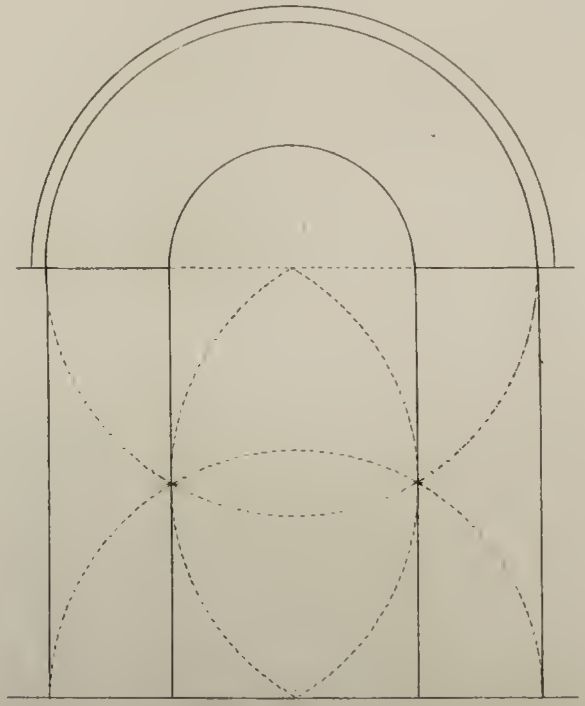
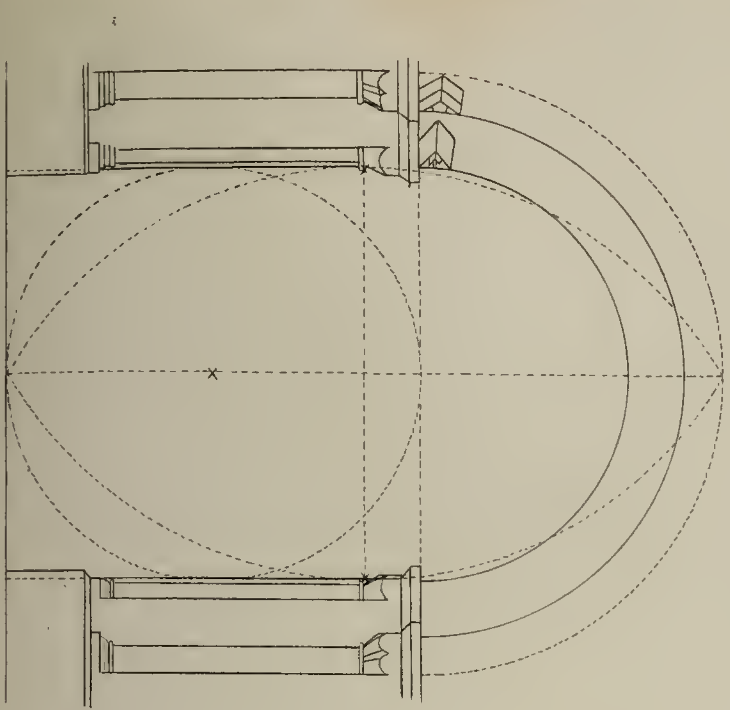


Fig. 42.

T. Kerrich del.

Jˢ Basire sc.

Plate XXX.



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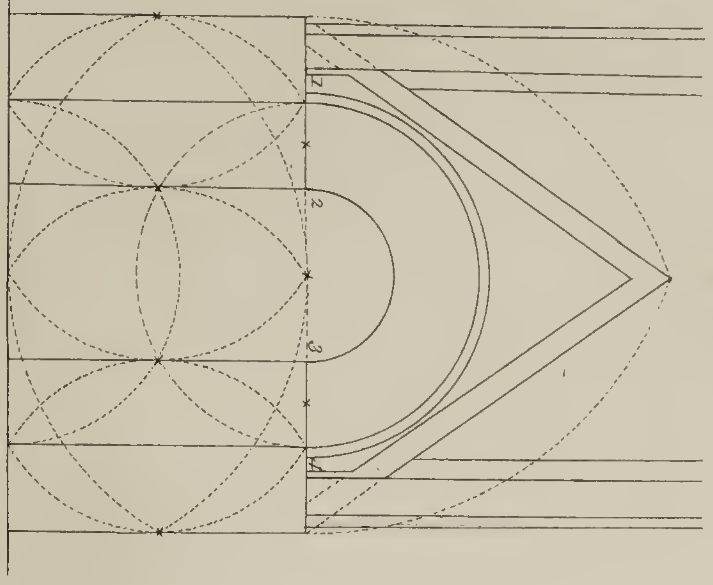

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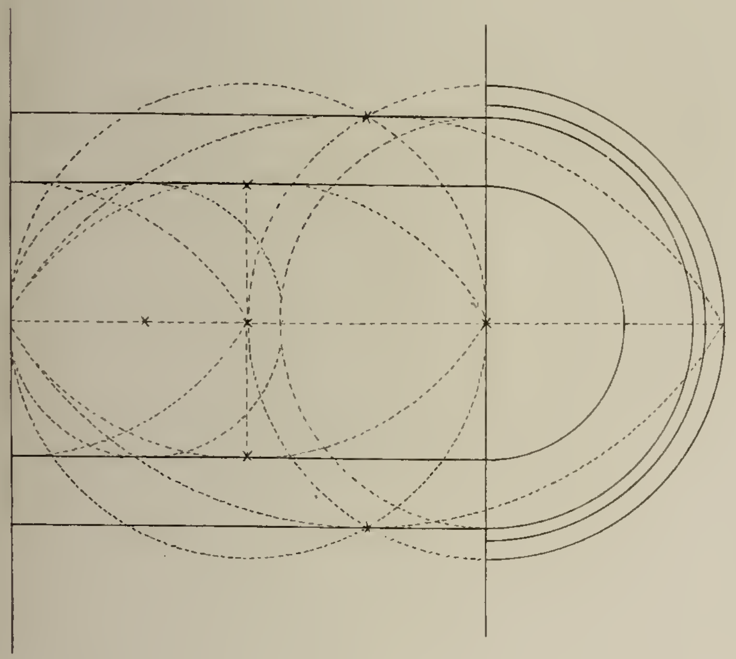

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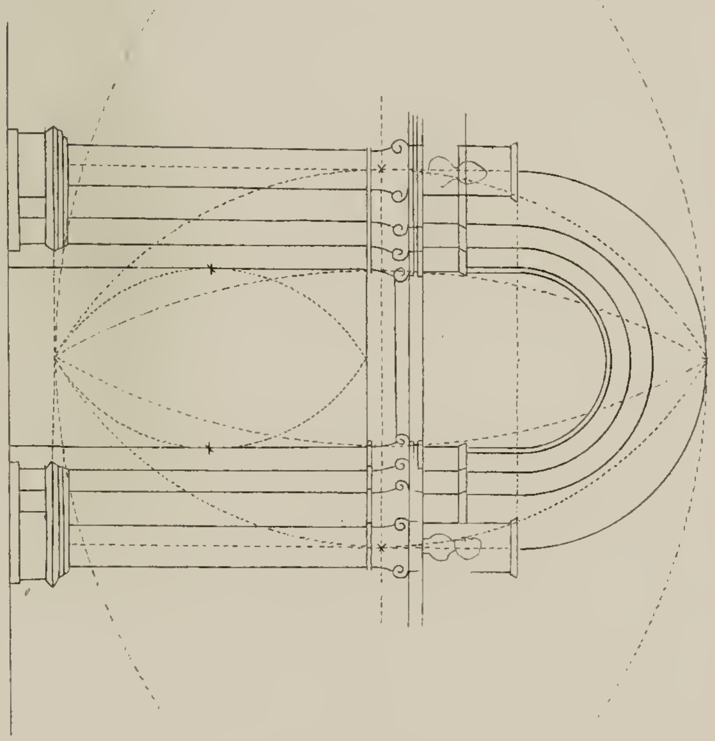

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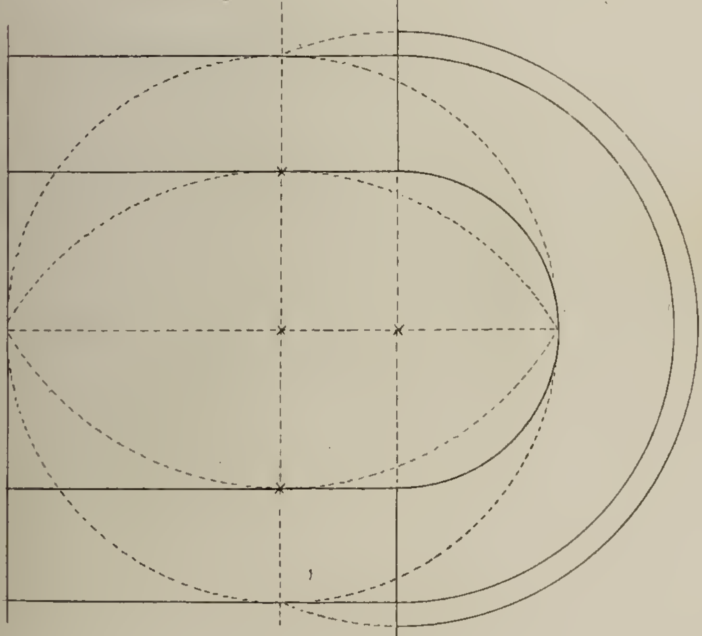

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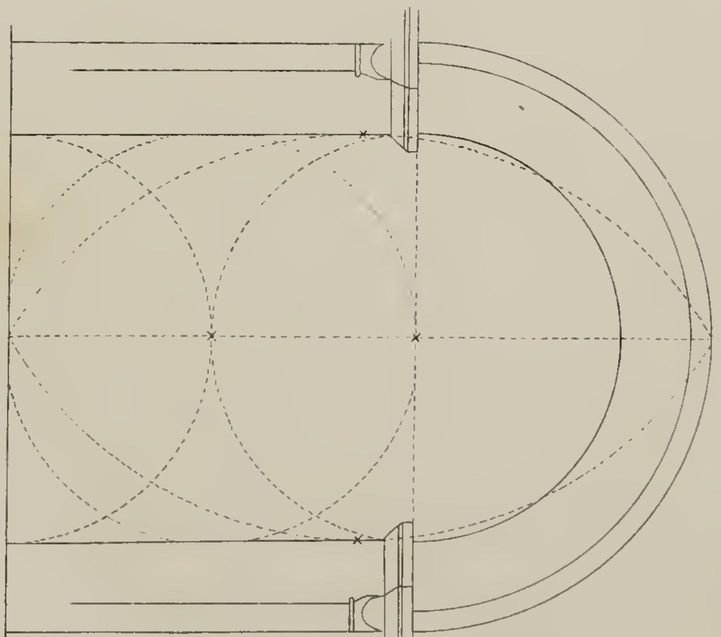

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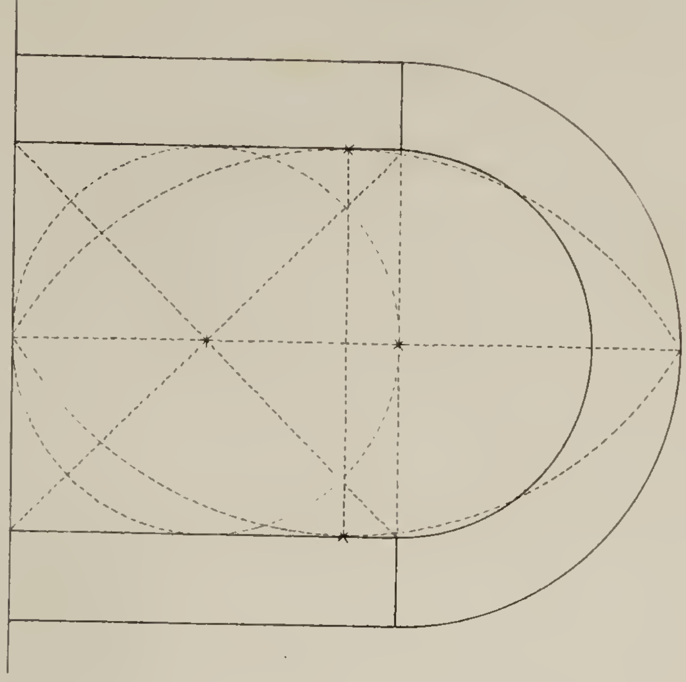
T. Kerrich del.

Jª Basire sc.



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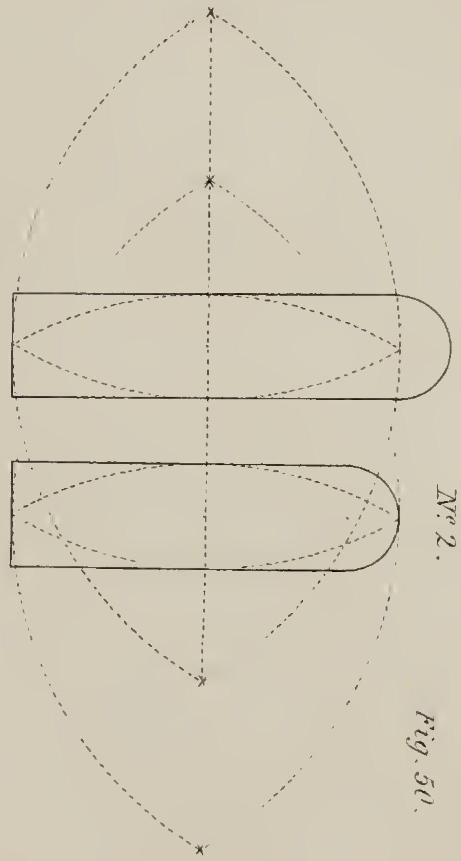

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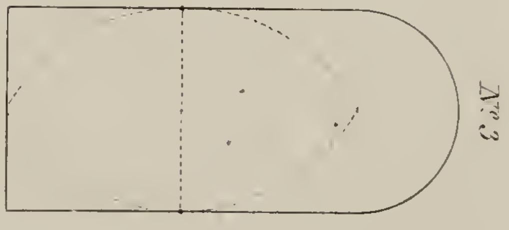

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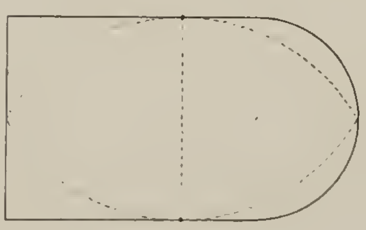

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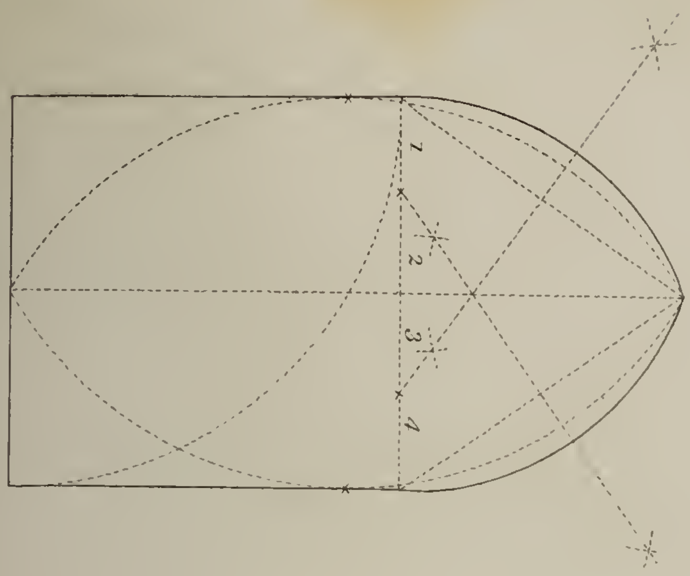

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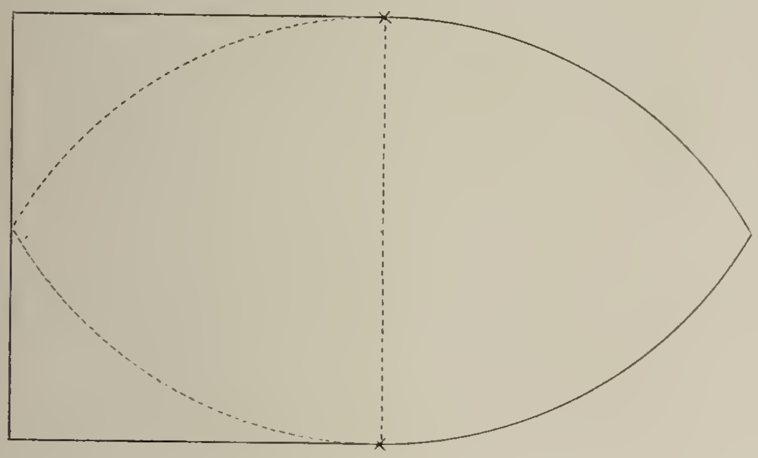

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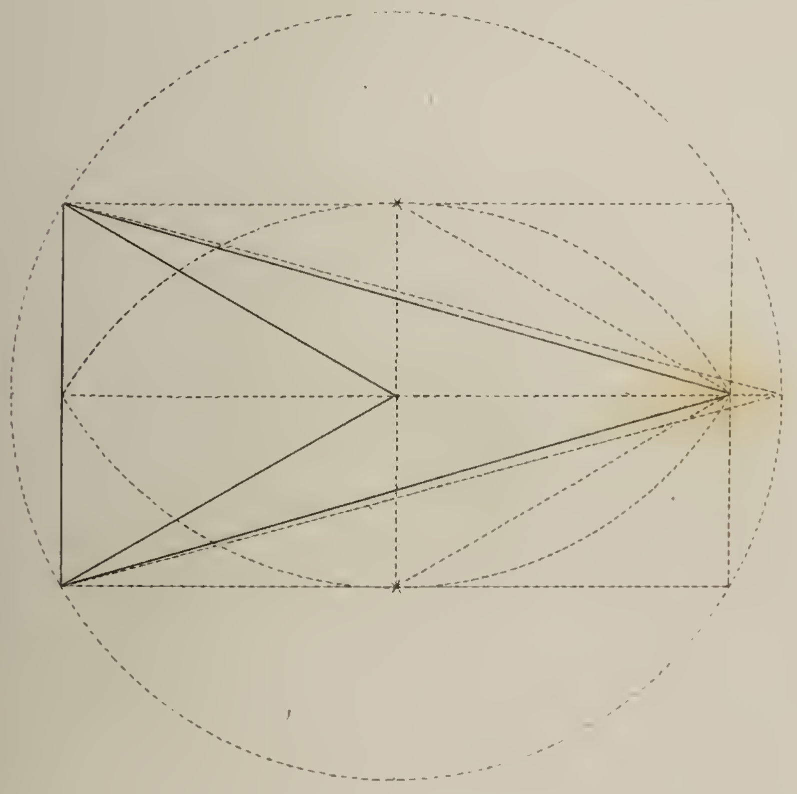
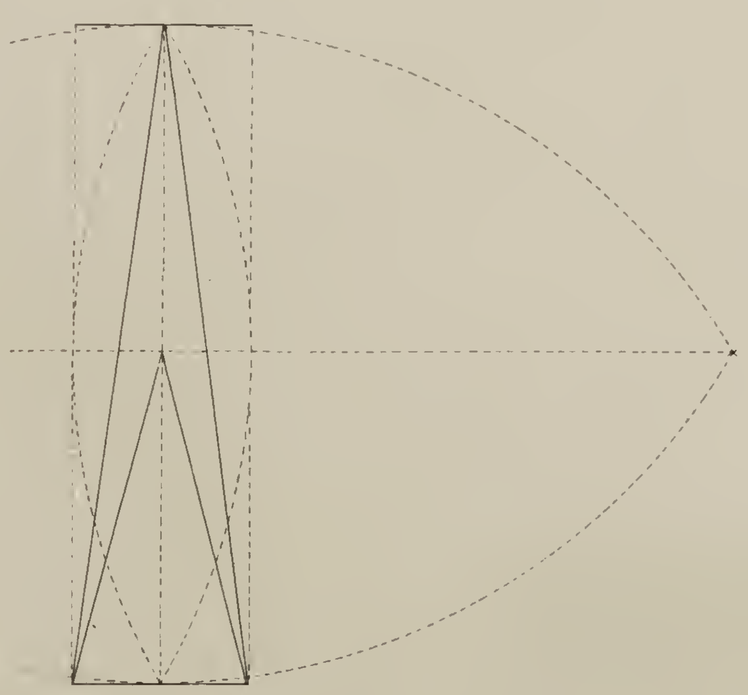


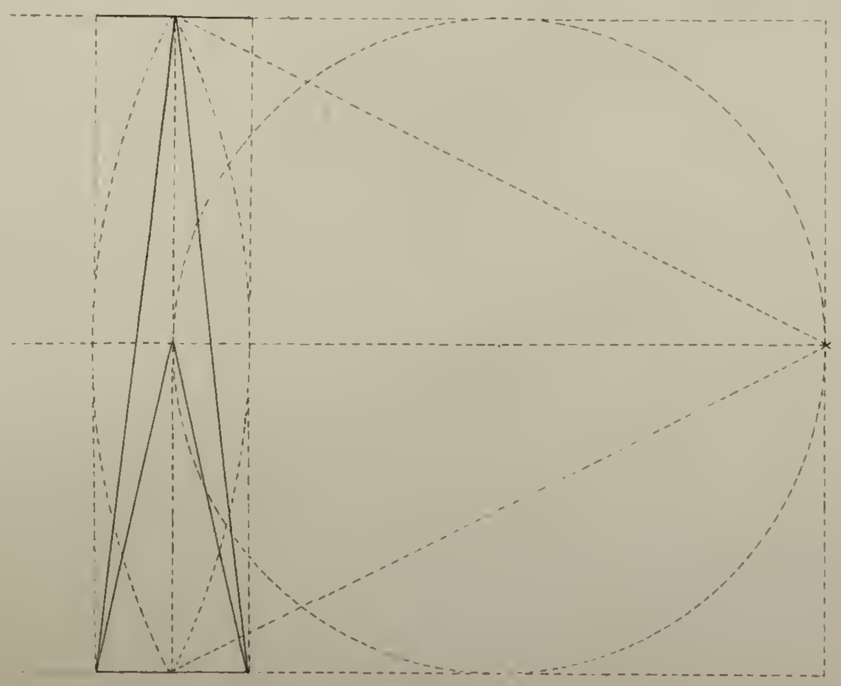
Fig. 53.

T. Kerrich del.

Js Basire sc.

Fig. 54.





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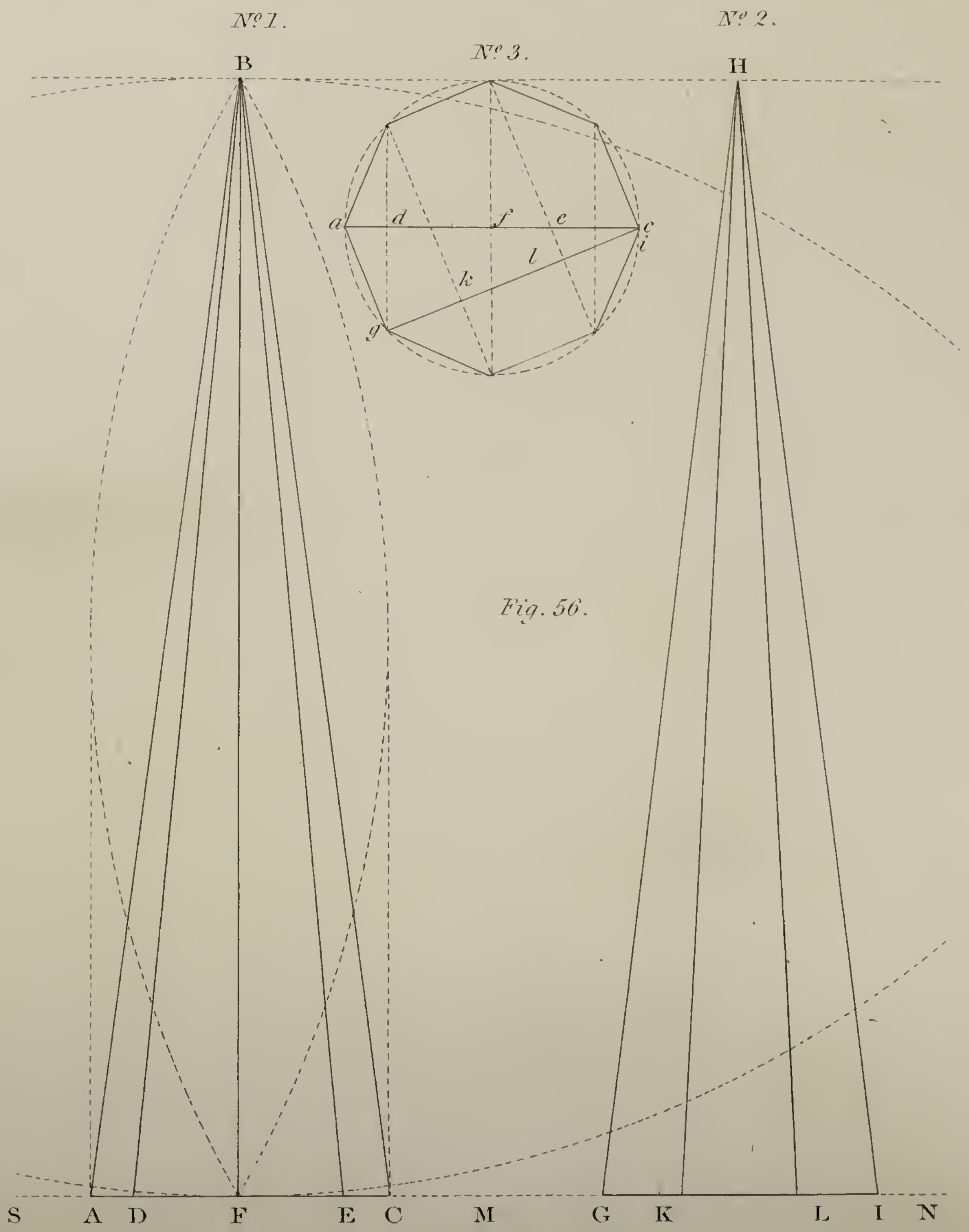

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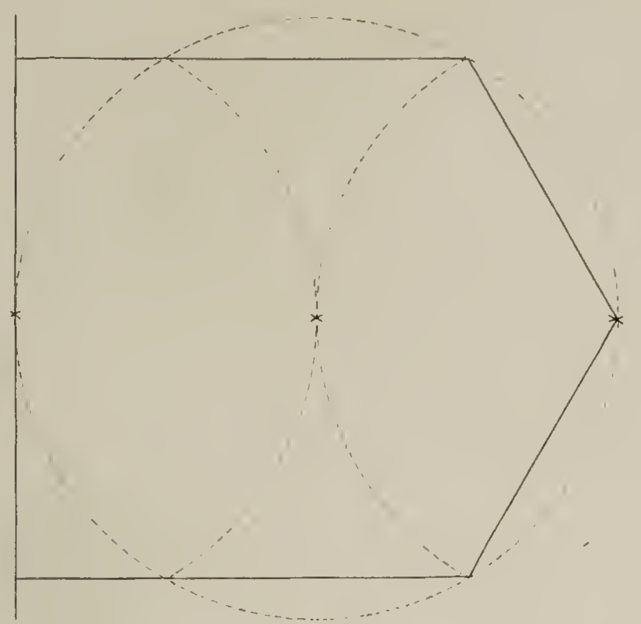
T. Kerrich del.

Js. Basire sc.



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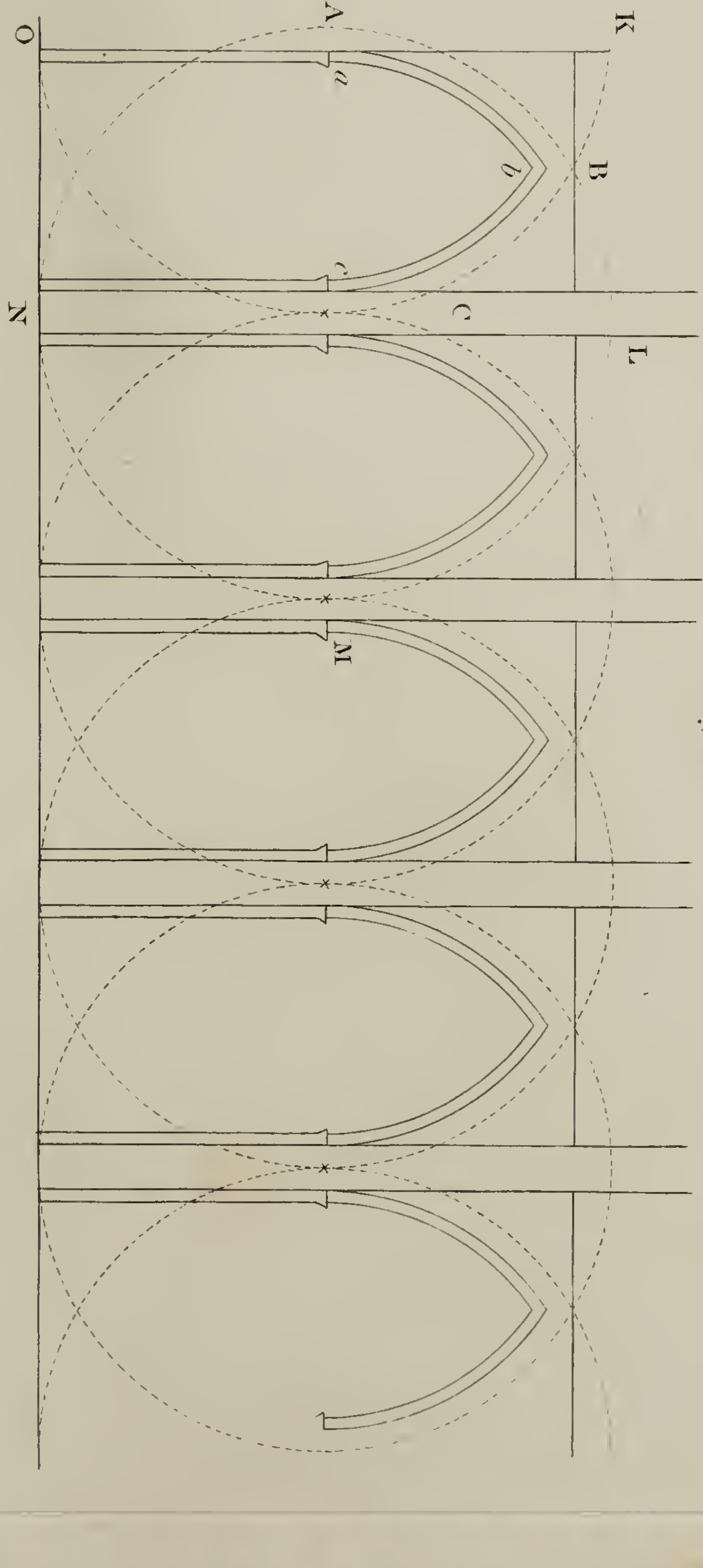

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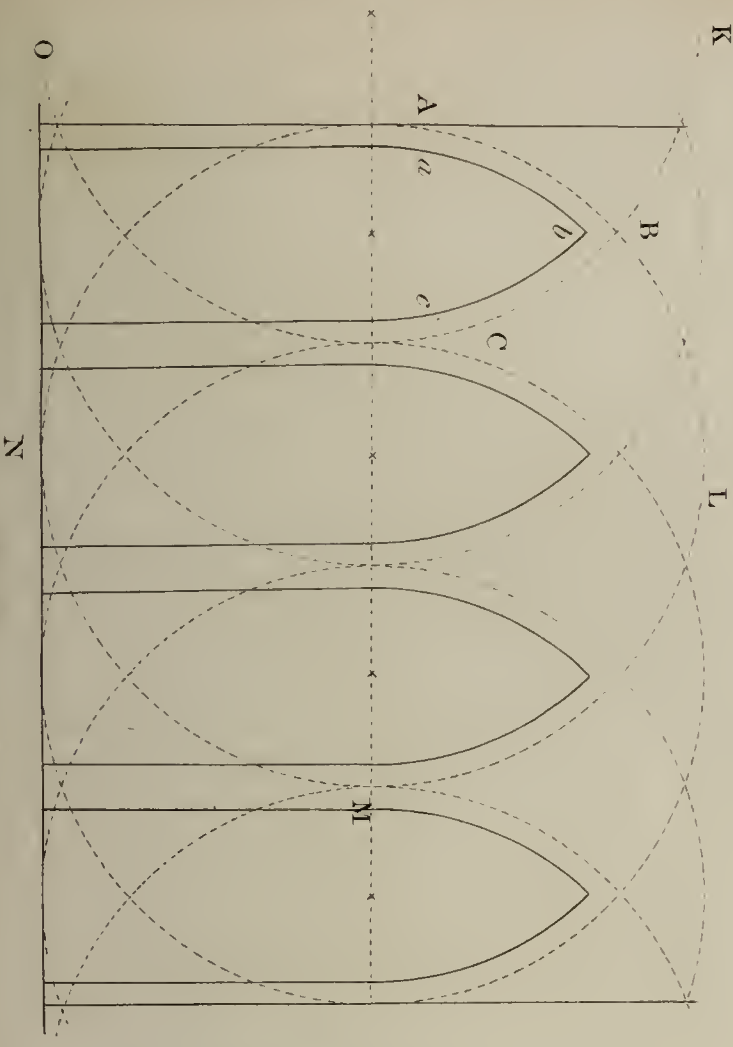

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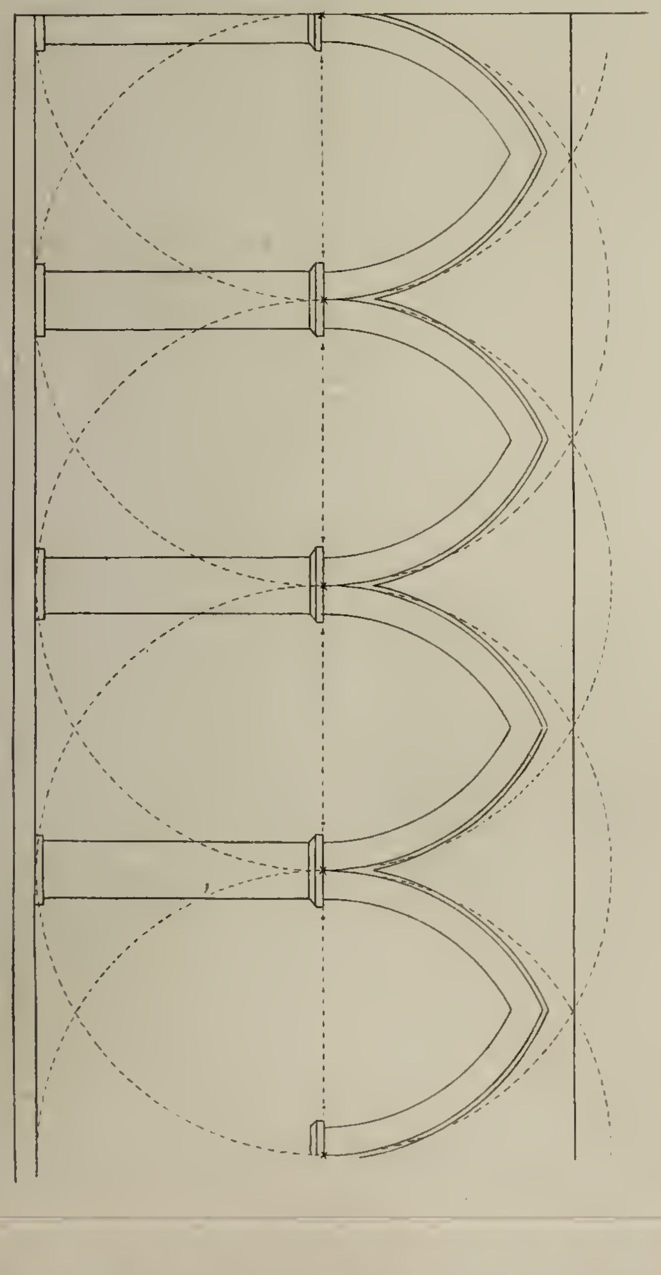
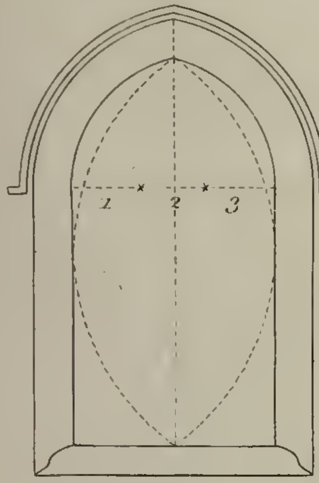


Fig. 60.

T. Kerrich del.

Js Basire sc.

Fig. 61.



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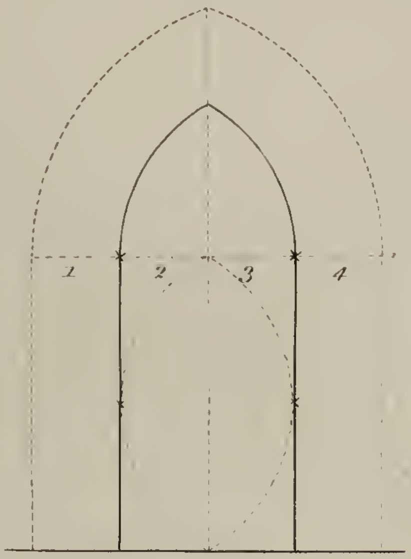

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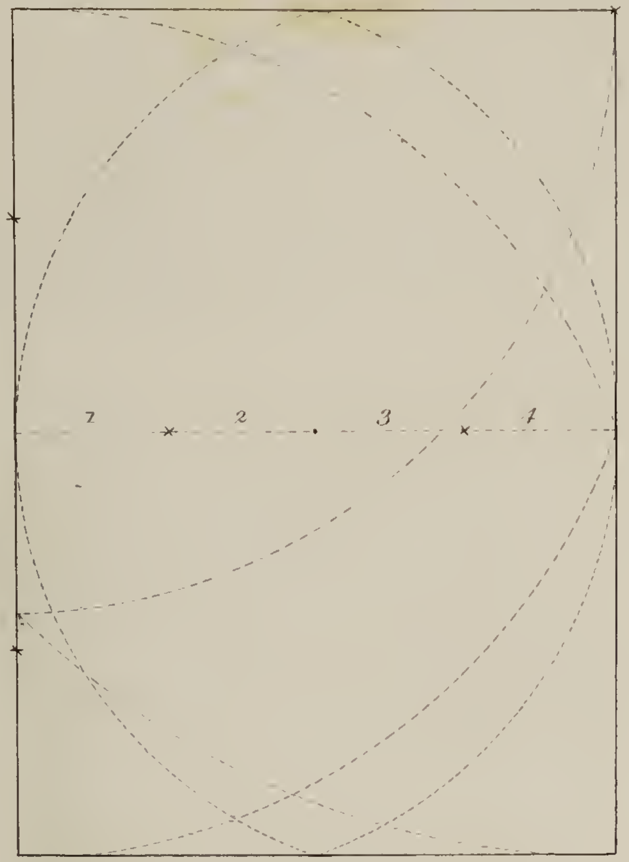

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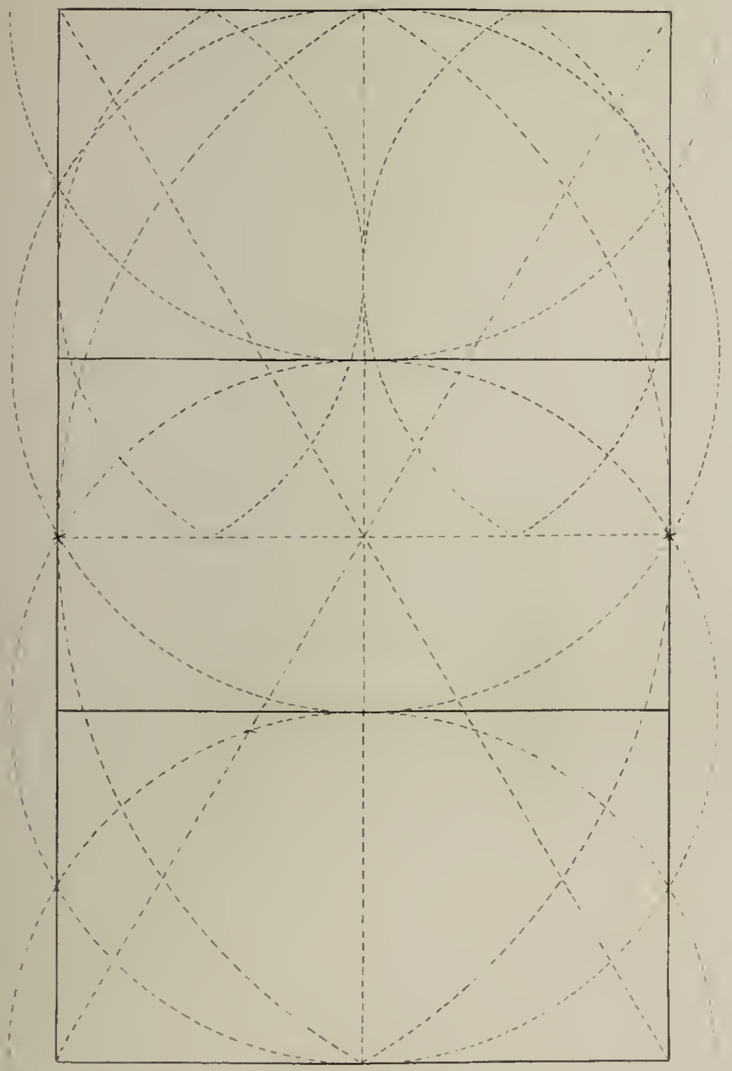

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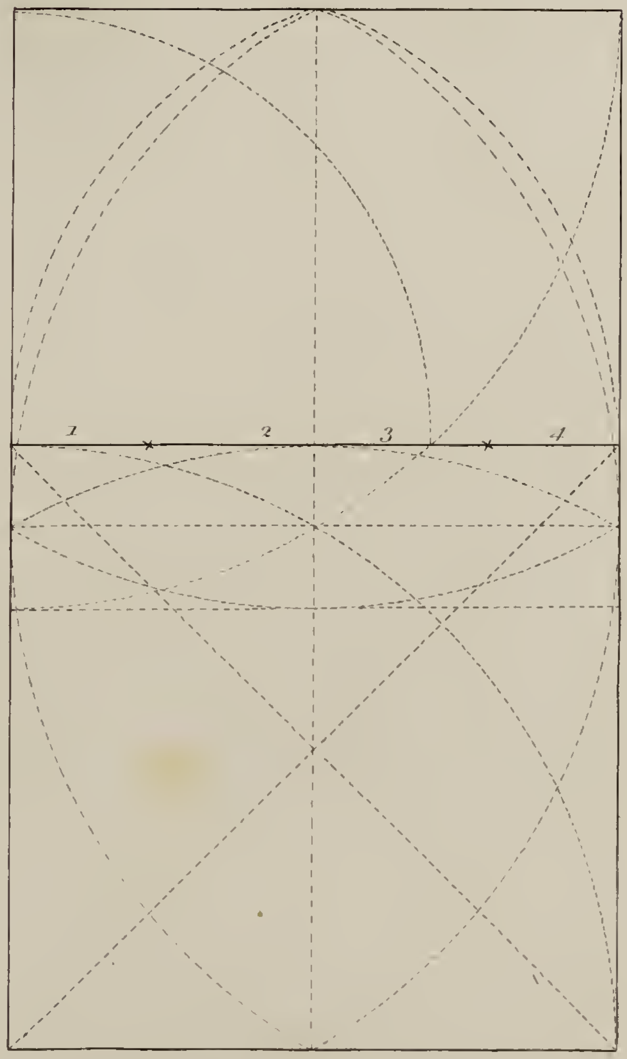

T. Kerrich del.

Js. Basire sc.